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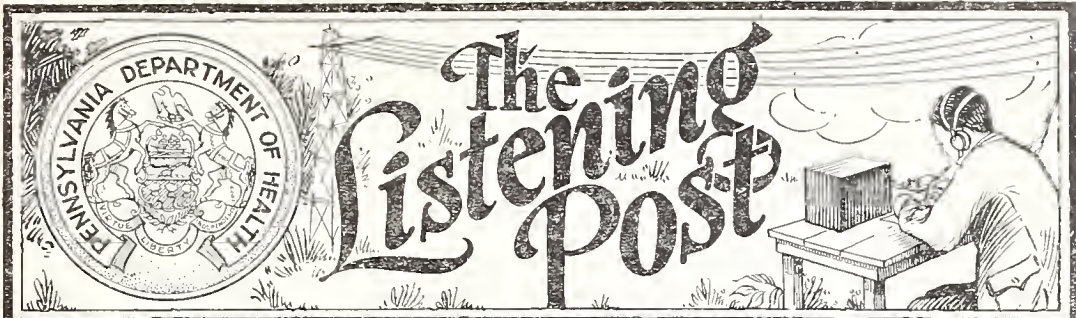


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Issued Monthly
by The Division of Public Health Education
Penna. Department of Health

Vol. 1

DECEMBER, 1922

No 1

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*“When ’Omer smote ’is bloomin’ lyre,
He’d ’eard men sing by land an’ sea;
An’ what he thought ’e might require,
’E went an’ took--the same as me!*

*The market-girls an’ fishermen,
The shepherds an’ the sailors, too,
They ’eard old songs turn up again,
But kep’ it quiet--same as you!*

*They knew ’e stole; ’e knew they knowed.
They didn’t tell, nor make a fuss,
But winked at ’Omer down the road,
An’ ’e winked back--the same as us!”*

RUDYARD KIPLING.

PHE 1. 17/4/7
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The Listening Post

Vol. I

DECEMBER, 1922.

No. 1

THE LISTENING POST, which heretofore has been issued in mimeographed form, for the first time blossoms forth in print.

Its primary object was to serve as a medium for exchange of thought and experience among the public health workers of Pennsylvania and as an instrument for the promulgation of the regulations and policies of the State Department of Health.

The official organization of the Health Department, with the addition of its associate army of volunteer workers, forms a huge family all striving toward the attainment of a common end: the reduction of the incidence of communicable disease, the betterment of sanitary conditions and the advancement of health standards.

To further this intimate relationship and to encourage the spirit of friendly emulation, the LISTENING POST urgently requests the Health Family to contribute accounts of special or unusual health activities or items of general interest.

As the printed page affords opportunity for expansion, the scope of the LISTENING POST will be widened to include original articles and abstracts pertaining to public health.

CORRESPONDENCE SCHOOL OF INSTRUCTION

The Correspondence School of Instruction of the Pennsylvania Department of Health was originally instituted to tutor the Department's personnel in the State Health Laws and Regulations of the Department.

Later, because of the large number of applications received from persons not directly connected with the Department, it was decided to extend the privilege to all Pennsylvanians, who are interested in the cause of public health.

The lessons are sent out monthly, material for the answers will be found in the current month's LISTENING POST. There is no expense attached to membership in this school; however, it is expected that the lessons be answered. Department employees are required to answer the lessons by order of the Commissioner; persons not connected with the Department, who fail to answer the lessons, will be dropped from the roll. Newly enrolled members of the school will be started with lesson No. 1 and a lesson will be sent each week until they catch up with the class—after that, one lesson a month.

Application for membership in the Correspondence School should be sent to the Division of Public Health Education, Pennsylvania Department of Health.

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DEPARTMENT POLICIES.

Measles Outbreak.

When an outbreak of measles occurs in a school, every child should be inspected for Koplik's spots (dot-like shiny white spots found on the inner surface of the cheeks) which appear before the coryza, conjunctivitis, cough, fever or eruption.

All suspected cases, mild or severe should be excluded and quarantined. Inspections should be repeated daily during the incubation period which is 14 days.

Schools and homes of the sick should be disinfected. Efforts should not cease with the apparent checking of the disease. The letter of the law should be complied with, regarding reporting, quarantine and isolation.

Scarlet Fever in a Boarding School.

When scarlet fever occurs in a boarding school, a complete census of the cases and census of the school for immunes (those having previously had scarlet fever) should be taken.

The closing of the school and dispersal of the pupils to their homes should not be permitted.

A strict daily inspection must be made of all pupils during the continuance of disease, for sore throat, fever, eruptions, etc. All detected cases must be isolated.

The probable introduction of the disease into the institution should be investigated (the brief incubation period 1 to 3 days should not be overlooked.)

Nurses should be quarantined with the cases. Dishes and utensils should be boiled before leaving the sick room.

No distinction should be made between mild and severe cases as to the method or period of quarantine.

Disinfection should be complete and comprehensive, and quarantine should not be broken previous to legal release and disinfection.

In order to enforce quarantine, guards may be used if necessary.

Adequate medical care and nursing, together with prompt reporting of new cases and placarding the same, is required.

Cow Pox Outbreak.

It was reported to the Department by its Chester County Medical Director, on October 25th, that cowpox had appeared among the cows of a dairy farm near Kennett Square and that all members of the tenant farmer's family, seven in number, were also infected.

Cowpox in the animal is so extremely rare in our State, that some doubt was felt as to the correctness of the diagnosis, more

especially as in a family of seven there would almost certainly be school children who had been vaccinated in accordance with the school attendance laws and, therefore, not susceptible to this infection. Investigation on October 27th made by the County Medical Director, the local Representative of the State Bureau of Animal Industry, the attending Physician and two Representatives from the Central Office, left no doubt, however, as to the accuracy of the original report.

No cows had been introduced into this herd within three weeks of the appearance of the lesions and it was subsequently shown by the veterinarian that there was no cowpox in the herd from which they had been purchased.

On September 16, however, two boys of the family, aged ten and thirteen, who until that time evaded the school vaccination law, had been vaccinated successfully.

Figure 1.



Cow Pox lesions on thumb and hand of father and arm of child.

The colored hired man, who showed a poor mark from an early childhood attempt at vaccination, was the only other member of the family **who** had been vaccinated.

One of the recently vaccinated boys was described by his Father, as his "Best Milker".

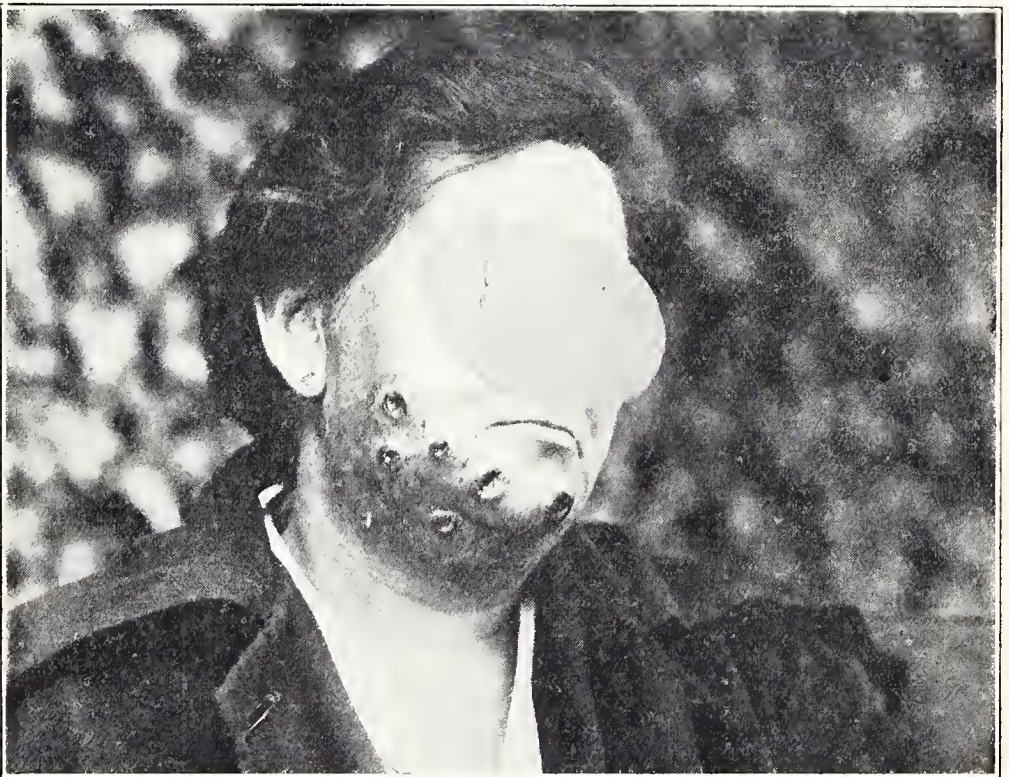
This fact furnished the explanation of the subsequent happenings.

About two weeks after the vaccination of the boys, lesions were first noticed on the teats of the cows, within a few days the condition had spread to the whole herd and also to the fingers and thumbs of the tenant and his hired man.

It was the habit of the 19 month old child of the family, to meet his Father as he came up from the barn. The Father would then lead the little one to the house, sometimes taking him by the hand, sometimes by the arm. This child showed a number of lesions on his left forearm, fewer on his right. (Figure 1) The same was true of the four year old boy who was evidently vaccinated in the same way.

The 19 month old child, who slept with his Mother, had a fashion of rubbing his hands over her face. The Mother was thus inoculated, showing the earliest existing lesions.

Figure 2.



Typical cow pox lesions.

At the time of the visit of the Representatives of the State Health Department, there were six of them extending from the point of the chin, backward along the jaw almost to the ear, figure 2. They varied in size from that of a penny to almost as large as a quarter. They were typical vaccination pustules at the stage of umbilication and earliest dessication. There was a marked inflammatory re-

action about the left, lower side of the face and neck, with corresponding swelling and glandular involvement.

The boys who had been vaccinated were the only ones to escape these multiple lesions.

These cases are cited, not so much because they are instructive or that they present any thing that was probably not known to **Jenner** more than one hundred years ago, but because of their rarity and interest.

Fence or Ambulance.

'Twas a dangerous cliff, as they freely confessed,
Though to walk near its crest was so pleasant;
But over its terrible edge there had slipped
A Duke, and full many a peasant;
So the people said something would have to be done
But their projects did not at all tally.
Some said, "Put a fence 'round the edge of the cliff,"
Some, "An ambulance down in the valley."

But the cry for the ambulance carried the day
For it spread through the neighboring city:
A fence may be useful or not, it is true,
But each heart became brimful of pity
For those who slipped over that dangerous cliff,
And the dwellers in highway and alley
Gave pounds or gave pence, not to put up a fence
But an ambulance down in the valley.

"For the cliff is all right if you're careful," they said,
And if folks ever slip and are dropping,
It isn't the slipping that hurts them so much
As the shock down below when they're stopping."
So day after day as those mishaps occurred,
Quick forth would these rescuers sally,
To pick up the victims who fell off the cliff
With the ambulance down in the valley.

Then an old sage remarked, "It's a marvel to me
That people give far more attention
To repairing results than to stopping the cause,
When they'd much better aim at prevention."
"Let us stop at its source all this mischief," cried he;
Come, neighbors and friends, let us rally;
If the cliff we will fence we might almost dispense
With the ambulance down in the valley."

"Oh, he's a fanatic," the other rejoined,
"Dispense with the ambulance? never!
He'd dispense with all charities, too, if he could
No, no! We'll support them forever!
Aren't we picking up folk just as fast as they fall?
And shall this man dictate to us? Shall he?
Why should people of sense stop to put up a fence
While their ambulance works in the valley?"

But a sensible few, who are practical too,
 Will not bear with such nonsense much longer;
 They believe that prevention is better than cure,
 And their party will soon be the stronger.
 Encourage them, then, with your purse, voice and pen,
 (And while other philanthropists dally)
 They will scorn all pretense and put a stout fence
 On the cliff that hangs over the valley.

Better guide well the young than reclaim them when old,
 For the voice of true wisdom is calling;
 To rescue the fallen is good, but 'tis best
 To prevent other people from falling;
 Better close up the source of temptation and crime
 Than deliver from dungeon and galley,
 Better put a strong fence round the top of the cliff
 Than an ambulance down in the valley.

Anonymous.

The National Board of Medical Examiners announce the following dates for its next examinations

Part 1: February 12, 13, and 14, 1923

Part 2: February 15 and 16, 1923.

The fees for these examinations have been continued at the reduced rate for another year. Applications for these examinations must be forwarded not later than January 1, 1923. Application blanks and circulars of information may be obtained from the Secretary of the National Board, Dr. J. S. Rodman, Medical Arts Building, Philadelphia, Pennsylvania.

The Health Gnome Says

Dirty teeth invite decay---

Brush them well three times a day

To keep destructive germs away,

And you'll have teeth, when old and gray



Church Aid to Well Baby Clinics.

Three hundred thousand babies is a conservative estimate of the aggregate cradle rolls of the religious denominations of Pennsylvania.

These existing groups afford an unusual opportunity for the practical application of the ways and means by which may be secured the physical development of Babies, which is fundamental to the State's Campaign for the elevation of health standards.

The Sunday Schools already have health on their program. The State Department of Health now offers them co-operation by aiding them to put into effect, for the betterment of infant health and the strengthening of infant bodies, the result of the accumulated experience of the medical profession.

Figure 1.



Exterior Well Baby Clinic, Harrisburg, Pennsylvania.

The Sunday School superintendents in every County are asked to get the machinery started so that the babies and children under five years may be given a chance to have complete physical examinations. This is accomplished by conducting a campaign, either in individual churches or in some central headquarters where all churches can unite. The doctors are enlisted, so far as may be from the congregations concerned; each church having its babies examined on its appointed day. With the simple and economical equipment needed, together with record forms and literature supplied by the State, these examinations will reveal many defects which so frequently go undiscovered, and point the Mother toward their correction.

Mothers of entirely healthy children will learn new ideas on how to care for their babies.

As is the case with all new ventures of the State Health Department, the initial experiment was tried out in the Capital city. On the 3rd of October, the Commissioner of Health sent the following letter to the clergymen of Harrisburg:-

Dear Reverend:-

The chief function of a health department is to keep people well. This means finding and correcting weaknesses and defects in their beginning—as soon after birth as may be; always before school age.

No single influence can be more helpful than that of the Church. Of your willingness to help, I am assured.

The way of effectively helping is this—

Announce, if you will, and next Sunday—

1. A Health Center will be opened in the Public Library for the examination of well babies and children under school age; conducted by a doctor largely skilled in such examinations, and not practising medicine privately.

2. Advise the Mothers to take their well children, not under the close supervision of a private doctor, to the Center.

3. Have prepared a list of all children belonging to the congregation, eligible for such examination. This by a committee if needful.

4. Secure from each parent, through the same agency, consent to send their children.

5. Send to the Division of Child Health, Department of Health, the names and addresses of these parents.

The parents will be notified when to report, so that long waits will be avoided.

Every precaution will be taken against the admission of children suffering from transmissible affections.

Those children needing attention will be referred to their family doctors. The parents of those who are essentially sound, will be so told.

This is a movement toward better health which will spread through the whole state. We want it initiated in Harrisburg. It takes time and trouble and expenditure of that nerve force which stimulates people to action. Men of your profession have never spared themselves when the object to be attained appealed to them.

Also, is it asking too much that you on Sunday, October fifteenth, deliver a sermon on Health? The facts on which this may be based will be sent you. As for a text—is not the Scripture full of such?

Believe me

Faithfully yours,

Edward Martin,
Commissioner of Health.

Figure 2.



Interior Well Baby Clinic, Harrisburg, Pennsylvania.

The response was prompt and enthusiastic. The City Library offered its basement, a commodious, well lighted room, for use as a Health Center. On October 16th, the well baby clinic was opened. It was generally understood, and so advertised, that only well babies should be brought to the clinic.

By a pre-arranged schedule, a special day was set aside to receive the children of each church congregation.

Dr. John Donnelly, of the Division of Child Health, State Department of Health, superintended the opening and assisted the local volunteer doctors in their work during the first month. Twenty-two doctors of Harrisburg responded, arranging their time of service in accordance with a plan which had been agreed upon. The clinic was open every afternoon from 1:00 until 5:00. About thirty babies a day were examined.

The accompanying illustration, figure 1, of the exterior of the clinic, photographed on an average day, will give a fair idea as to the attendance.

Figure 2, shows the interior of the clinic on the same day and figure 3, the nurses' examination.

Every child, after being weighed and measured by a nurse, was subjected to a careful physical examination by one of the Physicians in attendance.

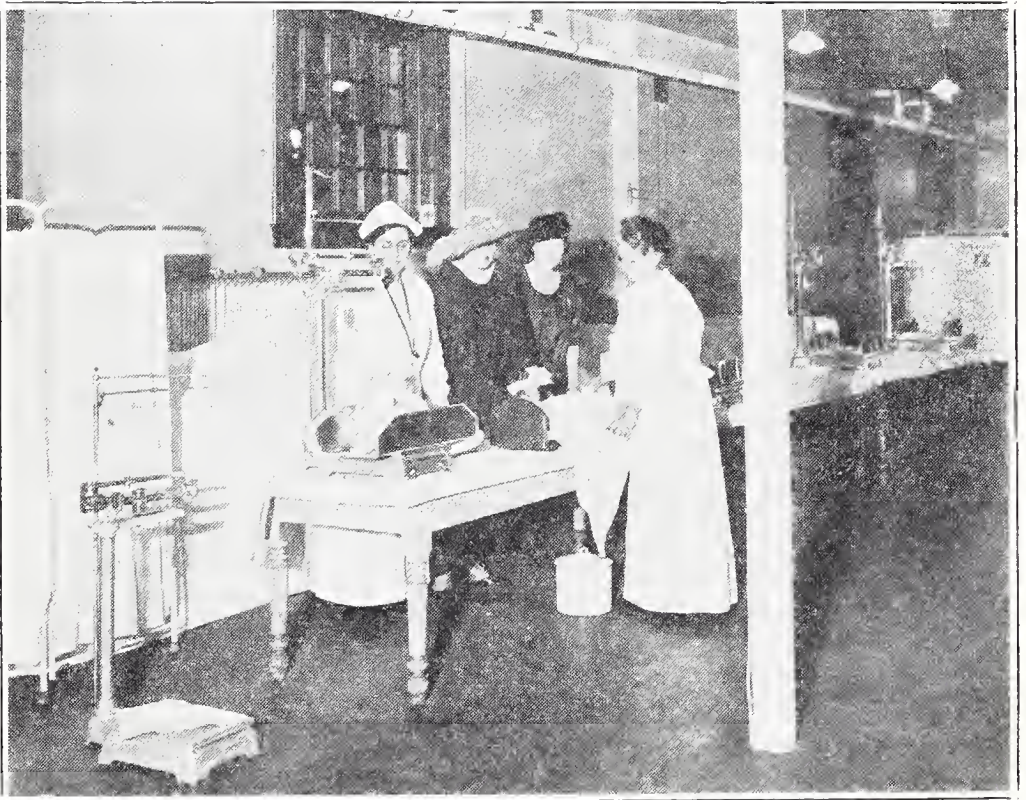
The whole story is succinctly told by Dr. Mary Riggs Noble, Chief of the Division of Child Health, who directed the experiment in the following:

"A group of baby carriages in front of a big stone building, a Library. A poster on the door. Slip in, and down a few steps! A long, bright room with tables and clerks writing in books and on cards. Hostesses welcoming Mothers and their charges. Groups of women making their way to the tables to answer questions. Screens hiding busy nurses and doctors bending over small forms. Crying, smiling, happy, indignant. Scales and measuring tapes and little live weights and measures. White gowns and caps hurrying hither and thither, carrying undressed babies. Tables of literature. Exhibits of clothing for tots.

This, the picture of the Library Health Center where the churches of Harrisburg are trying to give their Cradle Roll babies and their Beginners a 'Square Deal'—a complete physical examination.

A smiling Mother goes away saying, 'I think this is wonderful! I certainly am glad I came.' My baby isn't sick, but I've got some new ideas on how to care for him."

Figure 3.



Weighing Babies—Well Baby Clinic, Harrisburg, Pennsylvania.

Four hundred and seventy-one Well Baby Clinics are now in operation in Pennsylvania.

The church congregation co-operative plan, as tried out in Harrisburg, having succeeded beyond expectations, is recommended

as a means to augment attendance and increase interest, in existing Well Baby Clinics, and a procedure to be followed in the establishment of new ones. For full details of the plan, write to the Division of Child Health, Pennsylvania Department of Health.

Abstract.

A note on "The Immune Reaction of Smallpox Vaccination" appearing in The Army Medical Bulletin for February, 1922, is worth repeating.

It occurs only in those immune to small pox or vaccinia and consists of a papule with areola, reaching its maximum development in from twelve to sixty hours after vaccination. Retrogression then proceeds without a vesicle or the succeeding phenomena of vaccinia.

A minimum of trauma should be inflicted in making the inoculation. Blood should never be drawn. Two parallel linear abrasions not more than a half inch long and half inch apart, into which virus is gently rubbed, will suffice. Cleansing of the skin with germicidal agents should be carefully avoided. Acetone is thought preferable to alcohol as a cleansing agent because it evaporates more rapidly, is cheaper and is not denatured with substances which may affect the vaccination result. Every inoculation against smallpox should be followed by one of three types of reaction:

1. Primary vaccinia or the well known "Take".
2. The vaccinoid reaction which appears and runs its course within six or eight days and which is characterized by a papule with areola, a typical vesiculation and pustulization and the rapid course already mentioned. Unlike true vaccinia, reaction may occur within the first forty-eight hours. It is seen in those whose immunity to vaccinia has partially disappeared.
3. The immune reaction.

An important point is that failure of the vaccinated individual to react in any of these ways, indicates an impotent virus. An immune reaction always occurs within sixty hours. Any similar but later appearing manifestations, are not those of immune reaction.

Community Diarrhoeal Outbreaks.

Community diarrhoeal outbreaks other than food poisoning and typhoidal epidemics, appear in Pennsylvania practically every year. They are generally indistinguishable clinically from bacillary dysentery (either in its severe or its milder expressions) and the outbreaks are generally explosive and short-lived.

They probably are most frequently water-borne and in this respect they differ from institutional and military garrison outbreaks of bacillary dysentery, where the method of spread is usually by direct fecal contamination through hands, food, dishes, clothing, etc.—or by fly infection.

When a large percentage of the population is suddenly attacked and the distribution of cases does not suggest a localized cause, we may reasonably assume a bacterially contaminated common water supply; as no other cause will adequately explain such an explosive outbreak. We must, of course, rule out a sudden chemical dosage of any kind,—which should be comparatively easy.

It will not often be easy or possible to find the exact time or the manner in which a heavy charge of bacteria entered the water supply or at which the chlorination was interrupted by a breakdown or by neglect of attention. As a rule, records covering these points for twenty-four to forty-eight hours preceeding the outbreak are not available. Such sudden overwhelming dosage of the water might come from the introduction of the stools of a sporadic case of dysentery. From the very nature of the case, water examinations made after the outbreak will not disclose a transient contamination which has passed away. Negative examinations of today do not, therefore, prove that the supply was uncontaminated yesterday, and only too often our examinations of water must occur after the explosion is past.

The water may have ceased to be infectious after twenty-four hours either by reason of its flow and the removal of the infective material or by the reestablishment of efficient chlorination and disinfection. Perhaps the most urgent indication in connection with such outbreaks is that for bacteriologic study and this must be undertaken on the ground, promptly and by persons competent to inaugurate such study. A bacteriologist, a nurse and an engineer should co-operate with the health officer from the earliest possible moment in the study of these outbreaks.

The determination of the exact bacterial cause, whether of the "dysentery", "hog cholera" or "colon" groups of organisms will be a problem for the laboratory workers and frequently it will not be solved; never, in fact, unless the investigations are started early and are extended in all directions.

Given a presumptive water contamination, an engineer should, of course, remedy the water situation by chlorination or additional chlorination of a public supply and by suppression or disinfection of a contaminated well, spring or other local supply.

Upon the first appearance of such outbreak the local health authorities should call upon the public to boil all water used for drinking or culinary purposes, until such time as it is pronounced safe by the State Health Department.

Thomas W. Jackson, M. D.
Epidemiologist,
State Department of Health.

The next issue of the LISTENING POST will be devoted largely to Tuberculosis. All contributions should be in the office of the Division of Public Health Education before December 20th.

Sanitary Engineering Districts of the Pennsylvania Department of Health. Correspondence to the District Engineers should be addressed to the Engineering Division, Pennsylvania Department of Health, Harrisburg.

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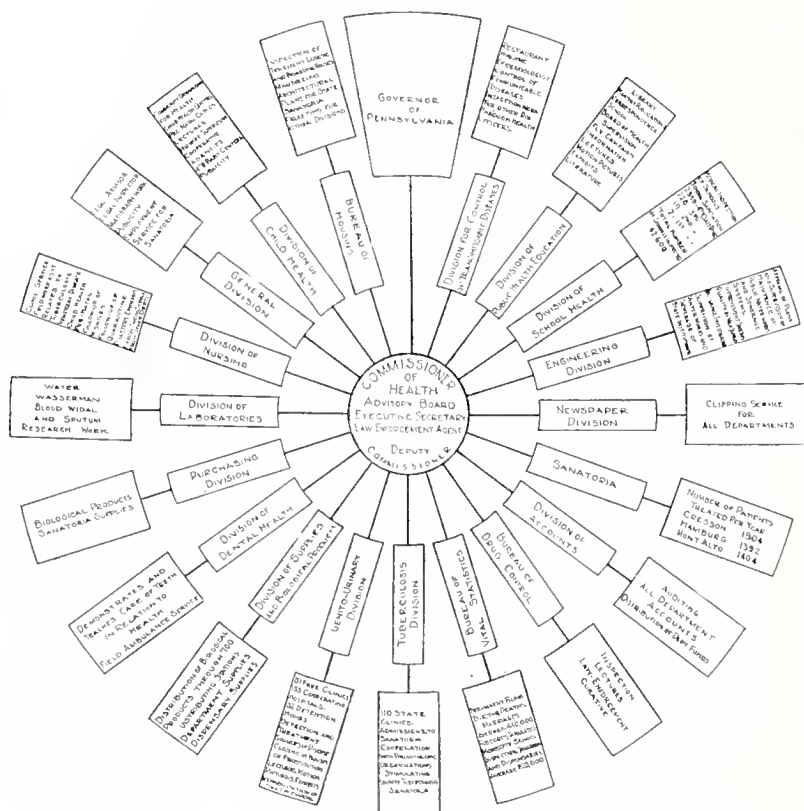
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Penna. Department of Health

Vol. 2

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*Be wise to-day; 'tis madness to defer:
Next day the fatal precedent will plead;
Thus on, till wisdom is push'd out of life.
Procrastination is the thief of time;
Year after year it steals, till all are fled,
And to the mercies of a moment leaves
The vast concerns of an eternal scene.*

Edward Young.

FOUR YEARS OF PENNSYLVANIA'S DEPARTMENT OF HEALTH

The activities of the Pennsylvania Department of Health during the past four years are concisely summed up in Governor Sproul's address to the joint assembly at the biennial convention of the State Legislature on January 2nd 1923, as follows:

Our Department of Health, under the splendid leadership of Colonel Edward Martin, has maintained its pre-eminent position. It has encouraged and supported local health administration; has organized an association including all municipal health boards, with a school of instruction for their better functioning; has conducted a correspondence course reaching more than a million citizens; has enrolled medical, church, school, business, labor and volunteer agencies in a concerted drive for a better public health.

With records showing a doubling of its activities, this department, under a budget system which it established in 1919, has had no deficit, though its last direct appropriation was \$34,369.24 less than was given in 1917.

Without enabling legislation it has completed protection against milk-borne infections for at least a million people; has made 127,474 inspections of food handlers, including those serving at county fairs; has secured 3,820 abatements of insanitary tenement house conditions, while annual inspections were made of 525,000 school children, with permanent records for each. 315,733 defects were found and corrected, and 113,876 scholars, educationally retarded more than three years, were listed.

Practical demonstrations of the means by which teeth may be kept sound have resulted in applying the methods shown to more than 50,000 children.

Narcotic soothing medicines for babies have been eliminated. Four hundred drug peddlers have been apprehended and convicted and fifteen hundred addicts have been cured. The total quantity of narcotics used in the State has been reduced seventy per cent.

In the purchase and distribution of 236,662 packages of antitoxin, vaccines and other biological supplies, lessened personnel, competitive bidding and systematic control of wastage have resulted in a saving of \$130,000.

Efforts to wipe out diphtheria have resulted in one thousand less cases in 1922 than in 1917, the case fatality rate being reduced from twelve in 1917 to nine in 1922.

217,185 laboratory examinations were made, a quantity increase of four hundred per cent, and a cost reduction of one hundred per cent.

There were 285,000 patient visits to the one hundred and nine tuberculosis clinics, and 13,392 patients were treated in the three sanatoria. Deaths from tuberculosis have been reduced from an average of 136 per 100,00 before 1918, to 91.6 in 1921, representing a yearly salvage of 3630 lives and probable prevention of 30,000 fresh infections.

In the last three years State nurses made 341,498 house visits; attended four hundred and nine clinics, to which there were 800,000 patient visits; provided for 14,579 under-nourished children raised \$239,172.74 in public gifts, which was spent for food, rent, clothing, fuel where it was most needed.

224,957 patient visits were made to State venereal disease clinics; hundreds of places of commercialized vice were closed; 4,480 public health menaces were quarantined, and there were 80,717 administrations of salvarsan without accident.

There are in Pennsylvania four hundred and seventy health centers for babies. In two hundred and fifty of these, in one month, 13,950 babies were examined. Since 1917 the infant death rate has been reduced twenty per cent; a present annual salvage of 4,600 baby lives.

The death rate in Pennsylvania in 1921 was 12.3 per 1,000 population, the lowest in the history of the State. Compared with the death rate of 16 in 1,000 in 1906, when applied to the State as a whole, this means an annual saving of more than 30,000 lives

FIELD ACTIVITIES

The Mount Carmel Clinics serve districts in Northumberland, Columbia and Schuylkill Counties. The rent and overhead expense is paid by the overseers of the poor in the territory which they serve. This not only settles the problem of costs, but makes the Clinics a district, instead of a local institution. The overseers keep in close touch, send patients and outfit patients sent to State Sanatorium and are always amenable to suggestions. The State nurses investigate cases of indigency and their reports are always accepted without question.

As most of the recipients of aid from the charitable organizations of the district come to the Clinic at some time, information concerning these people is usually available in the Clinic. On this account Dr. Williams, who has charge of the work of the Clinics, suggested that each organization send a representative to a monthly conference in the Clinic room. The overseers of the poor are also represented. This system has proven extremely helpful, enabling the various organizations to co-ordinate activities and prevents overlapping, while each organization retains its individuality and initiative.

The McEwensville Board of Health, with the exception of the medical member, is composed entirely of women. A woman is also employed as Secretary and Health Officer. The Board is splendidly efficient. McEwensville is a small borough, and the men capable of

filling borough offices are all serving as municipal officers—the appointment of Women members for the Health Board was a happy solution of a difficult problem.

The Bloomsburg Health Board employs a woman Health Officer, Miss Gertrude Sterling, who does exceptional good sanitary inspection and enforces quarantine effectively.

DISTRICT BOARD OF HEALTH ASSOCIATIONS

Pennsylvania law provides that health administration of boroughs be vested in Boards of Health, appointed by the President of the borough council, by and with the approval of the said body.

Each board of health consists of 5 members one of whom must be a Physician of at least 2 years' practice. The term of office is 5 years, one member being appointed annually. They receive no compensation for their service. The secretary may or may not be a member of the body. In either instance, however, he is entitled to pay. The health officer, who may not be a member of the board, is also entitled to salary. The law further provides that when, in the opinion of the Commissioner of Health, a Board of health is incompetent, or derelict of duty, the Commissioner may discharge the board and appoint a health officer to enforce health regulations and surcharge the borough with all expenses incurred by the said officer. There are now 133 boroughs of Pennsylvania in which health officers, appointed by the Commissioner of Health, are acting.

The health administration of all parts of the State, excepting municipalities and first class townships, is under the direct charge of the Commissioner of Health. Since boroughs are permitted by law to pass health ordinances, provided they do not conflict with existing Acts of Assembly or Department Regulations, it can be readily understood how in time, there could be a wide variance in the health requirements of boroughs in different parts of the State.

As a move toward co-ordinating municipal health administration and establishing a closer co-operation with the State Department of Health, it was decided something more than a year ago, to call together at Harrisburg, representatives of the boards of Health of some of the counties environing Dauphin, to discuss the advisability of forming an organization of health boards for the furtherance of better work in the State.

The matter of arranging the meeting and its program was assigned to the Division of Public Health Education. Accordingly the health boards of the counties of Adams, Columbia, Cumberland, Dauphin, Franklin, Juniata, Lancaster, Lebanon, Montour, Northumberland, Perry, Union, Snyder and York, were asked to meet at the Senate Caucus Room in the State Capitol on October 25, 1921. Out of the 140 health boards included, 90 were represented, some by the entire board. Many came long distances and in a number of instances, two days were required to make the trip. The program consisted of addresses by the Commissioner of Health and other members of the Central Office staff and a demonstration of the method

of organizing and carrying on the work of an average Board of Health. In this demonstration 5 members of the Central Office assumed the position of newly appointed members of the Board of Health of a mythical town named Cairo, which had a population of 5,000. The person who was appointed for the 5 year term, called the appointees to order and received their credentials. Having determined that no member of the board was ineligible by reason of holding office incompatible with membership on a board of health, they proceeded to organize by electing a President, the President then announced that the election of a secretary was in order. At this juncture, one of the members asked what the duties of the secretary were. The duties were explained and in this manner the information was gotten across. In like manner the duties of the health officer were explained. Then came the question of their salary which was discussed and finally decided. The salary of the secretary being set at \$5.00 a month and the health officer at \$30.00. The Board asked for an appropriation from the council of \$1,000 a year for the purpose of carrying on their work. The organization being completed, the board adjourned to meet a little later at its first regular session. In this meeting the health officer's report was heard and complaints from various citizens were taken up and adjusted. The board of Health held four meetings during which a large number of problems involving State Health Laws and Department customs were taken up and such questions as are frequently liable to confront the average board of Health were considered and dealt with. The co-operation which the State Department of Health is anxious and willing to extend to all Boards was brought out in full.

At the conclusion of the program, those present determined to organize into a District Association. They accordingly adopted a constitution, elected officers and decided to make the Association a permanent one, to meet semi-annually. The success of the meeting of District No. 1 was so marked as to encourage the formation of similar Associations in other parts of the State. During the past year the entire State has been organized into 9 Associations. The same program was given at the first meeting of each District Association. At subsequent meetings, other instructive programs were prepared.

The officers of the District Associations are as follows:—

- | | |
|----------------|--|
| District No. 1 | President—Dr. E. E. Campbell, Mechanicsburg
Secretary—Mr. S. B. Jury, Millersburg |
| District No. 2 | President—Dr. C. A. Stout, Cheltenham
Secretary—Mr. S. B. Stillwell, Doylestown |
| District No. 3 | President—Dr. D. H. Kellar, Stroudsburg
Secretary—Mr. Neil McCafferty, Allentown. |
| District No. 4 | President—Mr. Clyde Pipes, Washington
Secretary—Mr. J. B. McCune, Donora. |
| District No. 5 | President—Mr. L. K. Chilcote, Mt. Union
Secretary—Mr. T. G. Herbert, Altoona. |
| District No. 6 | President—Dr. F. D. Pringle, Punxsutawney
Secretary—Dr. J. J. Meyers, Johnstown. |
| District No. 7 | President—Mr. A. R. Wheeler, Edmonton |

	Secretary—Rev. Raymon Kistler, Warren.
District No. 8	President—Mr. George Williams, Wellsboro
	Secretary—Dr. R. Trainor, Williamsport.
District No. 9	President—Judge George Maxey, Scranton
	Secretary—Rev. Ferdinand Von Krug, Wyoming

MONT ALTO SANATORIUM

Past and Present

By R. H. McCutcheon, M. D.

Medical Officer in Charge, Mont Alto State Sanatorium.

Many great and important undertakings have their origin in the accidents of everyday life. So it was with the founding of this Sanatorium.

During the summer of 1902 a party of gentlemen was camping in a white pine grove on the mountain four miles east of Mont Alto near the road leading across the South Mountain range from Mont Alto to Fairfield. The location was an ideal one in the midst of thousands of acres of State Forest reserve and with an abundance of good, pure water at hand. One of the party was an asthmatic and at first he, like the rest, was living under the canvas shelter of a tent. However, for his greater comfort during the damp weather, a cabin eight feet square was erected out of some old lumber from a house just torn down at the foot of the mountain. From this cabin started the present camp; eight others, each ten feet square, being built for the benefit of consumptives desirous of camping on the State land during the next year.

The leading spirit in the organization of this Camp for the treatment of tuberculosis was Dr. Joseph Trimble Rothrock, Commissioner of Forestry. He saw the wonderful possibilities of the location, being a physician as well as a forester, and used all his influence with his many friends throughout the State and in the legislature to make the little camp a permanent and useful institution. His son, Dr. A. M. Rothrock, was for several years the physician in charge of the camp and ably carried out the ideas of its founder.

There is a bronze tablet erected on the sanitorium grounds commemorating the work of Dr. J. T. Rothrock which reads as follows;

“Joseph Trimble Rothrock, M. D., Botanist, soldier, explorer and pioneer in the cause of Forest conservation in this commonwealth, established the first free Sanatorium for the open air treatment of tuberculosis at Mont Alto in 1902.”

During the first two years of the Camp's existence all that could be offered the patients was the shelter, the fuel, the water, medicines and the services of the matron and the doctor. In 1904, however,

the Legislature, by its larger appropriation made it possible to add a kitchen and dining room to the plant and the benefit derived from this help was most pronounced. Heretofore all had been required to furnish their own food and to prepare it for themselves, and as can be very readily seen, the best results were not possible under such conditions. Many a patient was not physically able for the labor of cooking and dishwashing and the task once completed, the appetite was often lost. Others again did not know how to cook and with all, it meant that much time was spent over the stoves that could have been far better employed in the open air.

In 1903 the Legislature appropriated the sum of eight thousand dollars for the erection and maintenance for two years of a camp for consumptives at Mont Alto, and with this Act the institution may be said to have been fairly launched on its career.

The original site proved to be somewhat too low for wet weather, and accordingly the new buildings were erected across the road and a little higher up the hill where dryer soil and better drainage could be secured. The old cabins were then placed on skids and dragged over on a line with the newer ones in process of erection.

An Assembly building, an Office, a Spring House, and six Cottages were added with the funds available and shortly afterwards another cottage for four patients was added; then two more cabins and another cottage were constructed and the quota was brought up to thirty patients. As yet, however, the institution was merely a camp in the woods with no provisions made for dining room or kitchen. All who came were obliged to prepare their own meals, keep their quarters in order and in every manner look after themselves.

Little garden plots were allotted to anyone desiring to raise vegetables and this proved quite a source of pleasure as well as of food supply to those who undertook their cultivation.

Dr. Brosius from Mont Alto came for the first year of the Camp's life, once a week, to look after the patients, and then in 1904 a resident physician was put in charge of the medical work.

Mrs. Anna Klee of Chambersburg was made matron and in every way her influence for good was to be seen. Col. O. B. Simmons was the Superintendent, and he and his wife were always ready to lend a helping hand to anyone in need.

The Assembly building deserves a word in passing as it was then, the central point about which revolved the life of camp. It contained but one large room well lighted and ventilated on all four sides and surrounded by an open porch amply big enough to enable all to take the cure upon it. Right up through the middle of the roof rose the chimney from a noble fire-place open on all four sides and big enough to burn full cord wood logs and throw its genial heat and dancing flame light out across the room. During inclement weather all could gather here as in a pavilion and with games and indoor amusements it added greatly to the pleasant, social life of the camp on such occasions. Church services were here too, on Sundays and Wednesdays, and it also served as council chamber for the camp when any points or rules were discussed between patient and staff.

At the next meeting of the Legislature in 1905, fifteen thousand dollars were appropriated and it was possible to add a camp dining room and kitchen to the equipment. One dollar a week was now charged and for this everything was furnished but the laundry and the sputum cups which later were bought in bulk and sold at cost price.

In 1907 the camp was transferred from the Department of Forestry to the Department of Health and with the six hundred thousand dollars then appropriated, a part of the present great buildings and improvements in the plant were constructed.



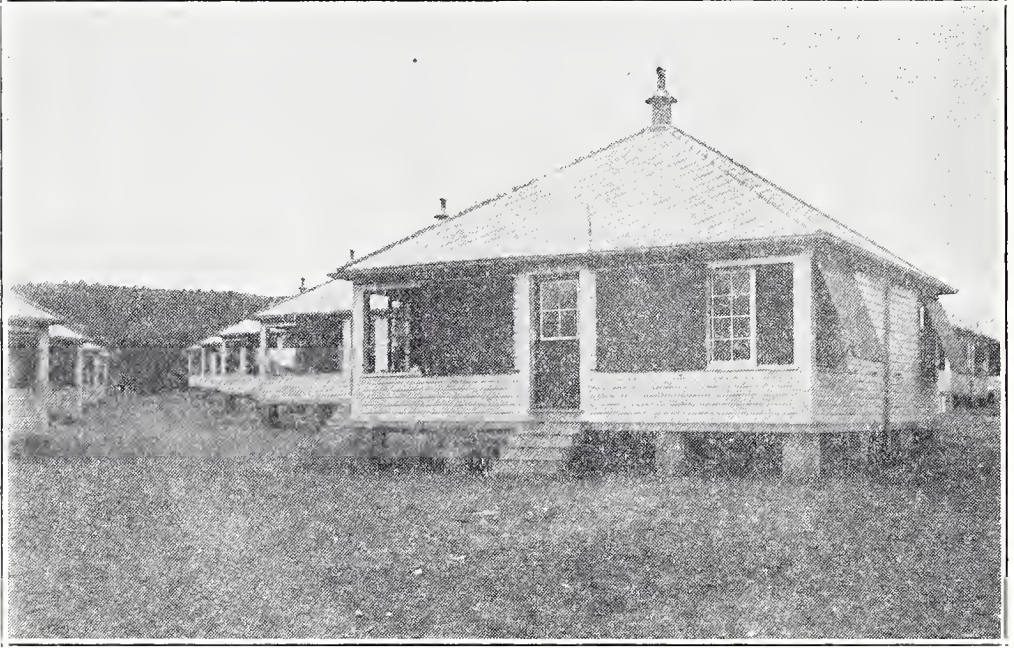
Bird's Eye View of Free State Tuberculosis Sanatorium. at Mont Alto,
Pennsylvania.

Samuel G. Dixon, M. D., LL. D., D. Sc., Commissioner of Health from 1905 to 1918, deserves the credit for the futhering of Dr. Rothrock's undertaking by planning and constructing the Sanatorium as it now stands. Dr. Dixon was a man of broad vision and large experience as evidenced by the fact that he was able to carry out the enormous work and to persuade the state to grant sufficient funds for such a new and untried undertaking.

The cottages which now house the ambulant patients were planned by Dr. Dixon and are so simple of plan and construction and yet so satisfactory for the open air treatment, that they were widely copied and are known as the "Dixon Cottage."

As evidence of the high regard in which Dr. Dixon was held by his associates at Mont Alto, a bronze tablet was erected to his memory in 1919 which bears the following inscription:

"Samuel G. Dixon, M. D., LL. D., D. Sc., Commissioner of Health, Commonwealth of Pennsylvania, 1905-1918. Erected by the patients and employees of this institution as a token of their esteem and deep appreciation of his work among them. 1919.



Row of Dixon Cottages.

The Sanatorium is located in Franklin County, in the midst of a State Forestry Reservation of 55,000 acres in the South Mountain range. Mont Alto on the Waynesboro Branch of the Cumberland Valley Railroad is the nearest railway station, and it is four miles distant at the foot of the mountain. The altitude is about 1650 feet above sea level. It is situated on the eastern slope of the mountain and the hills rise up like the sides of a basin some 300 or 400 feet above it. This basin is opened up by mountain passes to the southwest and northeast and east, is well wooded and watered and has a sparse collection of houses scattered over its area.

The woods afford good hunting and the streams are well-supplied with brook trout. The summer temperature is very seldom oppressive, there being a buoyancy in the air during even our hottest days that is most invigorating and our nights even during the warmest weather are comfortably cool. The change in the nature of the atmosphere is most noticeable after climbing up the mountain road from the valley and there seems always to be a fine rest giving breeze as the summit is reached.

There is another great advantage, namely, our freedom from all outside sources of atmospheric contamination. Situated well up above all the valley towns and surrounded by thousands of acres of

forest lands, the air comes to us absolutely pure from every direction. Again so far as we know, we have no adverse influences surrounding the Sanatorium. We are so isolated that there seems to be no dread on the part of those about us that our family of consumptives may do them any harm.

The Sanatorium, as it now stands, is undoubtedly one of the largest of its kind in this country. The Camp plan of treatment, which was started in 1902, is still being carried out although with more comfortable cottages and more modern conveniences. It was found necessary, however, to supplement the camp treatment with a hospital building to accommodate such cases as were confined to bed and required more medical and nursing attention than could properly be given in Camp.

It was also discovered that some provision should be made for the care of children who were too young and feeble for camp life. These and many other factors led to the erection of the numerous Sanatorium buildings as they stand at present. There are seventy cottages in camp, each cottage containing eight beds. The hospital building accommodated two hundred patients, caring for all the patients who were confined to bed. On account of insufficient appropriations, this important part of the Sanatorium was closed from June 1920 until November 1921, when it was opened as a separate institution to care for Veterans of our late war, suffering with tuberculosis.

A large three-story Children's building accommodates one hundred fifty children of both sexes between the ages of six and twelve years; the Dispensary building accommodates twenty-two adult patients confined to bed, and also contains Doctors' and Nurses' offices; Dental clinic; Laboratory; Operating room; X-ray and drug room. The basement of the Dispensary contains the camp Post Office, electric shoe repairing outfit and office of a social service worker.

The large Amusement and Assembly Hall was opened December, 1921 and has a seating capacity of five hundred. It is here that moving pictures are shown twice weekly; patients' social evenings are held twice weekly, and facilities are given for medically supervised exercise and recreation during the winter months.

A first-class bowling alley has recently been installed in the rear of the amusement hall which furnishes recreation for such patients as are physically able to indulge in the more active forms of exercise. Two school rooms attached to the Amusement Hall provide possibility for the continuing of the child's education while receiving treatment in the Sanatorium.

Numerous open air cure pavilions provide ample space for each patient in the Institution to spend a certain number of hours daily reclining in the open air.

The mechanical equipment of the Institution including Power Houses, Laundry, Electric Lighting System, Garages, Sewage Disposal Plant, Kitchen and Bakeries are absolutely first-class and up to date in every respect.

From the medical standpoint a patient coming to Mont Alto can be assured of receiving the very best attention by the group of tuberculosis specialists fully trained for their work. The initial examination; the outlined treatment and the care of each individual patient



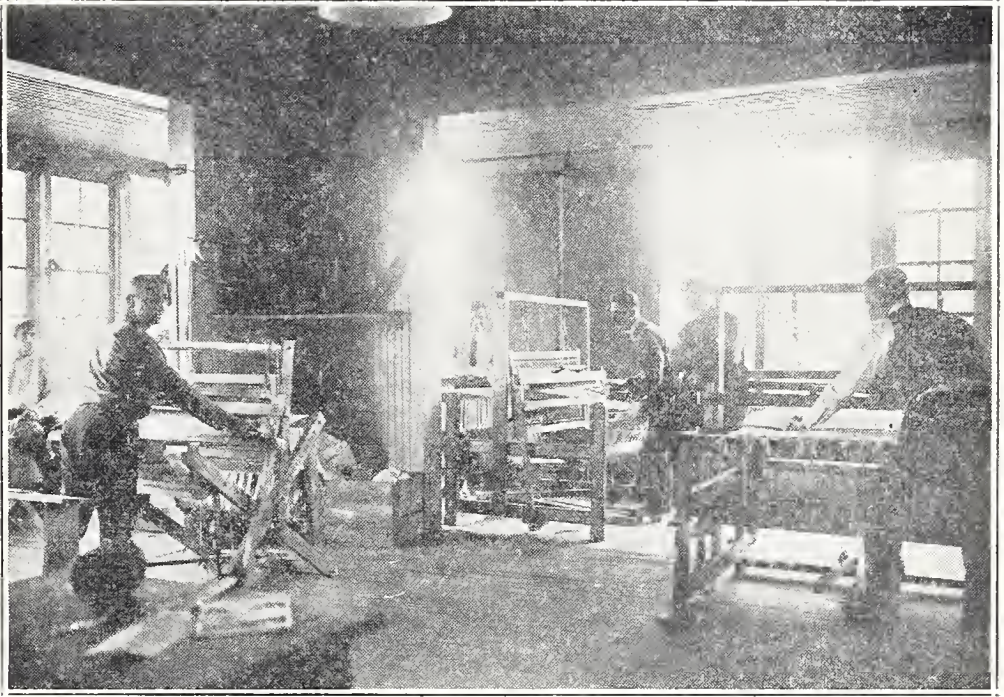
Occupational Therapy at Mont Alto—Patients at work.

has resulted in an unusually large percentage of apparently arrested cases. The term "cure" is so often a misnomer that a word of explanation is deemed necessary. It takes very often from four to five years to establish a permanent cure, while it is often possible to arrest the disease in from four to six months by Sanatorium treatment.

On account of the large number of tuberculous individuals in the State requiring treatment, it has been necessary to limit the stay of our patients to approximately six months. During their Sanatorium experience, patients are instructed by weekly lectures by the medical staff and by daily supervision and example not only how to get well themselves but how to live after leaving the Sanatorium, so that the health and lives of others will not be endangered. The education of the patient along these lines is considered a duty of equal importance to the patient's cure.

Probably the most interesting feature of the Sanatorium at present is the treatment of our children. At least ninety per cent. of children between the ages of six and twelve admitted to this Sanatorium do not have pulmonary tuberculosis. They come either from tuberculous parents or have been in contact with tuberculous friends or relatives, or they have been reared in impoverished homes and are suffering from malnutrition. Our Children's Hospital could rightly be termed a "Preventorium," instead of a "Sanatorium," as it is the aim of this Department to so improve the general health and nutri

tion of these children that they can combat the danger of the infection of the tubercle bacillus successfully, rather than to cure an infection already existing.



Occupational Therapy at Mont Alto—Patients Weaving.

It is most interesting to observe the extraordinary improvement shown by these children after a few weeks of well-regulated life; proper food; sufficient sleep and suitable recreation. These so called pre-tuberculosis children are cared for on the average for four months. At the end of this period they are permitted to return to their homes stronger in mind and body with increased resistance against all forms of disease.

Another interesting and very important feature of our treatment is the work done in the Occupational Therapy department. The Community Art Shop, Sewing Rooms and Occupational Therapy Studio provide ample facilities for children and adult patients to spend their idle moments in recreation both instructive and beneficial. A large variety of subjects is taught including basketry, weaving, woodworking, sewing, manicuring and the like, and the large number of patients taking advantage of the benefits of this Department speaks for its popularity.

Briefly, the scheme of our sanatorium treatment is divided into two parts. First, rest, as nearly absolute as possible, during the active stages of the disease. Second, rest with graduated exercise up to full time employment of patient during their stage of arrestment. The habits of the first part of the treatment are completely broken up by insisting on exercise, increased gradually as the patient is able, and until such time as it is felt that the patient is able to resume his life's work outside the Sanatorium.

RELATION OF ANIMAL TUBERCULOSIS TO PUBLIC HEALTH

by

T. E. MUNCE, Director, Bureau of Animal Industry.

Every program for the repression of human tuberculosis must take note of tuberculosis in animals. Thus, the eradication of animal tuberculosis becomes a public health measure.

The transmissibility of tuberculosis from animals to human beings is generally admitted. Milk from tuberculous animals is a potential carrier of tuberculosis, whether the udder be infected or not. One tuberculous animal in a herd may contaminate the entire product of a large milk receiving station and distribute tuberculous germs of animal origin to a large number of children.

It is estimated that about 10% of all deaths from tuberculosis in children, under 5 years of age, is due to infection through cows' milk containing tubercle bacilli. Furthermore, about 25% of all cases of tuberculosis in children, under 5 years of age, is due to the bovine species of the tubercle bacillus.

Health authorities have expended a great amount of effort in propaganda to make known to the milk consuming public, the great danger, particularly to children, of using milk derived from sources which do not insure, beyond all doubt, that the milk is uncontaminated with tubercle bacilli. Enforcement measures are in effect in many places, requiring that milk from all sources be subjected to such conditions as to practically guarantee its safety as a food so far as tuberculosis is concerned.

The consumption of milk or milk products, derived from either of the following two sources, is attendant with very little danger.

- 1—Milk from tuberculin tested cattle.
- 2—Pasteurized milk (milk which has been heated to at least 146° F for at least one half hour).

Milk not subject to either of the above conditions, is often found to contain the germs of tubercle bacilli.

Meats from tuberculous animals may also be a source of tuberculous infection in human beings.

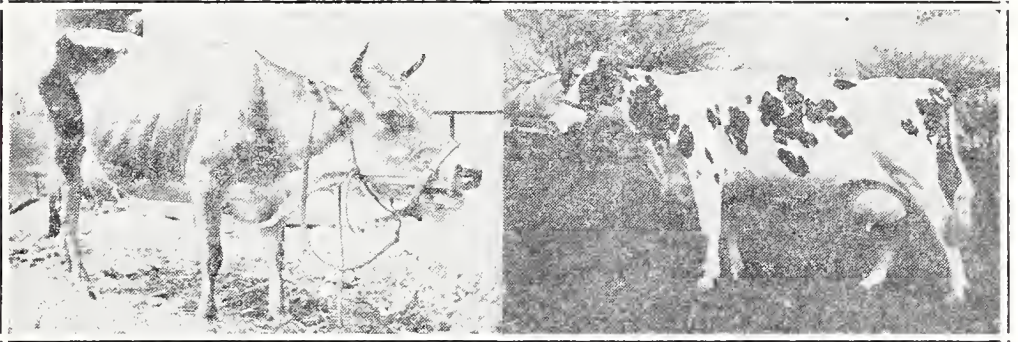
Other dairy products, such as butter, cheese, etc., when prepared from unpasteurized milk from tuberculous animals are also known to contain living tubercle bacilli, and when these products are used for food there is always grave danger (particularly to children) of tuberculous infection.

In view of the relation of animal food products to public health, it is important that every measure to insure their safety should be employed.

Pennsylvania, which ranks second in population in the United States, and third in the value of dairy products, should exercise a supervision, not only over the products themselves, but of the conditions under which all animal food products are produced and handled.

Since the danger of transmission of animal tuberculosis to man is practically confined to the milk and meat supply, such supervision in the production, handling and distribution of these products would constitute an important factor in public health service. There are some who would attempt to solve the problem of milk contamination by pasteurization alone and, while this may be practical under certain conditions, it will never become general nor will it solve the question of bovine tuberculosis.

City ordinances requiring the pasteurization of milk will not prevent the transmission of tuberculosis to the millions of the rural districts and villages.



Tuberculous Cow.

Healthy Cow.

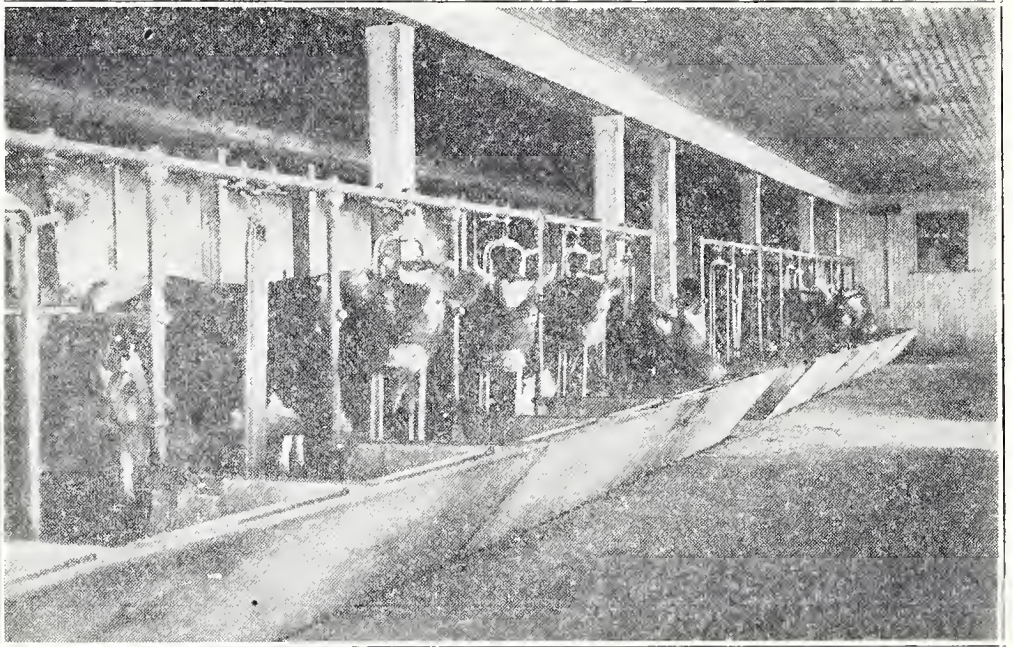
Only when enforced pasteurization, under supervision, is adopted will protection by pasteurization be practical. It has been recommended that no milk of uncertain origin should be consumed without being either pasteurized or boiled. As the application of this suggestion is entirely dependent upon the consumer, it is not and probably never will be carried out.

The better way to prevent transmission of tuberculosis from animals to human beings is to strike at the root of the evil by preventing animals from becoming infected. Every herd of cattle should be tested by the tuberculin test and infected animals should be killed.

The feeding of unpasteurized milk from tuberculous animals to young calves and pigs is a sure way to infect them with tuberculosis.

The activities of the Bureau of Animal Industry, Pennsylvania Department of Agriculture, in the prevention, control and eradication of tuberculosis in cattle may be summarized as follows:—from 1896 to December 1st, 1922, 28,782 herds, comprising 437,765 cattle were tuberculin tested, of which 11,520 animals were condemned, 428,259 imported cattle (brought into Pennsylvania) were examined and tested,—of this number 4,357 were condemned and slaughtered.

Practically all herds examined and tuberculin tested are under the accredited herd plan, which is in operation in every state. In Pennsylvania 2,821 herds, comprising 44,667 cattle are under the accredited herd plan, (a uniform plan for the establishment of tuberculin free, herds of cattle; details will be furnished upon application to the Bureau of Animal Industry, Department of Agriculture, Harrisburg, Pa.) of which 5,185 animals were condemned for tuberculosis. Much of this work has been done in co-operation with municipal health boards.



Sanitary Stable.

The interest of owners and all co-operative agencies has increased each succeeding year to such an extent that funds and personnel for conducting the work are inadequate to meet the demand.

All cattle in several areas, would have been examined and tuberculin tested if adequate funds were provided. We anticipate an examination and tuberculin test of all cattle within one or more counties next year.

The success of the examination for the suppression of animal tuberculosis is dependent, to a great extent, upon the attitude of the public toward the work. Independent work and the efforts of private organizations for the suppression of either animal or human tuberculosis, while helpful in spots, is wasted energy. Medical schools, hospital authorities, health organizations, physicians and nurses should spread the propaganda that human tuberculosis bears a close relationship to bovine tuberculosis. Live stock sanitary officials and veterinarians should be equally active in broadcasting information that the presence of tuberculosis in animals means a menace to human beings.

STATE TUBERCULOSIS CLINICS

by

A. P. Francine, M. D.—Chief, Division of Tuberculosis.

The effort has been made in the administration of this Division:

1. To cut down inexpedient and burdensome expenditure.
2. Thus to save money to enlarge the scope of this service; that is, to carry it to localities that were not being reached as is necessary.
3. To increase the actual working efficiency of the dispensary services.
4. To promote and stimulate extradepartmental effort through antituberculosis and other philanthropic bodies.
5. To stimulate local counties to provide sanatorium accommodations for their own tuberculous sick, particularly the far-advanced cases, near their own homes, through a law enacted by the Legislature of 1921.

1. It appeared clearly inexpedient for the Department to pay rents and certain other charges for its dispensaries, that is, to support entirely a local institution run for local community welfare. A campaign was undertaken to show local communities the part they should bear in furnishing of free quarters for the state clinics and overhead charges like light, heat and janitor service.

It met with uniform success and was accomplished without the closing of a single clinic. This relieved the Department of a monthly overhead charge for rent, etc., which amounted in six months to \$23,809.92. Rents were taken off in 44 dispensaries.

2. This enabled the Department to proceed with the essential work of carrying this service to other communities, with the result that 22 new clinics were opened without overhead charges to the Department. The Department pays the doctors a moderate fee and furnishes supplies: educational (literature), preventive (sputum cups and napkins, and a few simple drugs) and the necessary forms. It also supplies furniture, desk, scales, filing cabinets and chairs, where necessary. These remain state property, and are carefully inventoried in the Division of Supplies.

3. Dispensaries were quite widely inspected and the personnel instructed in exact detail of their work. It is not out of place to add that the chiefs of our clinics are showing a wide interest, not only in tuberculosis work, but in broader aspects of public health work, and are recognized everywhere as most active and successful members of the profession, and most useful in community welfare.

The principle of these state clinics is not static, but dynamic. That is, the effort through the nursing force is continuous to hunt up and get new cases in for examination, education, and sanatorium care; and not alone apparent cases of tuberculosis, but anyone who shows signs of failing health, particularly anemic or run-down children.

This applies only to the indigent or at the request of physicians. There is also a strong effort being made to enlist the active co-operation of the employers of labor.

4 Close touch has been kept with local philanthropic bodies by letter and by personal visits, with the result that these are uniformly giving the Department the heartiest co-operation, not only in referring cases, but in advertising the work, and in many instances helping financially.

5. On account of the overcrowded condition of the sanatoria there was a waiting list of nearly a thousand and it took six to nine months for admission, thus defeating the usefulness of these institutions in the necessary delay for the admission of early favorable cases. It was seen that the principle of local communities, *i. e.*, counties, providing a certain amount of sanatorium care for their tuberculous sick, particularly the far-advanced cases, near their homes was the only solution and the proper one. Pennsylvania with its 2,000 state-controlled beds was much worse off in this relation than the other states which had followed this policy of local care. This principle had inhibited local effort, and no state institution in this country, so far as I know, receives far-advanced cases. By inaugurating the proper policy of not receiving far-advanced cases, which could not be benefited, but would occupy beds for many months, the efficiency of the sanatoria has been enormously increased, and many more children and curable types have been treated in 1921 and 1922 than heretofore. It now takes only from 2 to 3 weeks for the admission of a case.

Mont Alto,	1919	1920*	1921
Patients on hand,	526	675	448
Patients admitted,	1,223	790	956
Patients treated, .....Total	1,749	1,465	1,404
Cresson,	1919	1920	1921
Patients on hand,	494	681	663
Patients admitted,	1,310	1,162	1,141
Patients treated, .....Total	1,804	1,843	1,804
Hamburg,	1919	1920	1921
Patients on hand,	304	410	435
Patients admitted,	1,230	919	957
Patients treated, .....Total	1,534	1,329	1,392

6. The Department introduced a bill providing for a referendum to the people of a county as to whether they wished the county to build and maintain a local institution for tuberculosis. This has met with a very hearty response on the part of the people, and the county commissioners; and of the seven counties submitting this to a vote at a general election all have passed it by large majorities. Five of these counties have already bought sites, and plans are in progress for the erection of model institutions. In two others sites are being selected.

In November, 1922, four other counties voted for sanatoria by large majorities, namely: Schuylkill, Erie, Dauphin, and Westmoreland. This local county hospital plan is the biggest single step in the campaign against tuberculosis since the establishment of this Division.

7. The Department has now 110 state clinics, with prospects of opening five or six in the near future, and this policy will be carried out.

8. The death rate from tuberculosis in all forms has fallen from 151.4 in 1918, 91.6 per hundred thousand in 1921, and for tuberculosis of the lungs from 133.3 in 1918, to 80.0 in 1921.

Morbidity and mortality figures for Pennsylvania are interesting:

	1917	1918	1919	1920	1921
Cases of tuberculosis, all forms reported, . .	11,243	10,115	9,725	8,144	7,083
Deaths from tubercu- losis of the lungs, . .	10,042	11,257	8,971	8,011	7,001

This shows that cases are not being generally reported, as the incidence of the disease as reported is not sufficient to support the yearly mortality. The decline of the death rate from tuberculosis of the lungs during the five-year period 1917-1921, inclusive, has been more pronounced than the decline of other reportable diseases, or the general death rate.

For tuberculosis of the lungs the decline was 33 $\frac{1}{3}$ per cent. for all other reportable diseases it was 31 per cent, and for deaths from all causes it was 20 per cent.

*In 1920 a large 200-bed hospital at Mont Alto was closed for lack of funds and subsequently taken over by the United States Veterans' Bureau.

PENNSYLVANIA FREE STATE TUBERCULOSIS SANATORIA

Mont Alto Sanatorium, which is the largest institution for the treatment of tuberculosis in the world, is described elsewhere in this issue.

The Cresson Sanatorium is located in the Allegheny Mountains, Cambria County, on a tract of land which was deeded by Andrew Carnegie to the State of Pennsylvania for the purpose of caring for tuberculous patients. The Sanatorium, which is located at an elevation of 2,530 feet, is built on the hospital plan with numerous long well ventilated corridors, in which the patients recline in comfortable chairs while "taking cure". In addition to this, there is a number of cottages built after the "Dixon" plan. Cresson has a capacity of 720 beds.

The Hamburg Sanatorium, located near Hamburg, Berks County, at an elevation of 540 feet, is built on the hospital plan and has a capacity of 500 beds.

Patients are admitted to the Sanatoria by application to one of the 120 State Tuberculosis Clinics. Those cases which show a fair prospect of arrest and cure, are sent either to Cresson or Mont Alto. Advanced cases are sent to Hamburg.

Patients are required to provide their own transportation to and from the Sanatorium. The care and treatment while in the Sanatorium is absolutely free to all.

Occupational Therapy is an important factor in the treatment of patients at the State Sanatoria. Educational facilities, under the direction of the Department of Public Instruction, is provided for the children.

THE STATE NURSE GOES "A-VISITING"

It had been a busy afternoon at the free State Tuberculosis Clinic, but a State Nurse must never be too tired to be pleasant—so it was a welcoming smile which met the ill-nourished, shabbily clad, Jennie Stone as she timidly sought admission. Re-assured by her kind reception, she sank wearily into a vacant chair in the waiting room, where many, like herself, had come for the first time. Bit by bit she told the nurse the not unusual story of hard work, long hours, poor food and progressive weakness until finally she had to give up her work.

The Clinic Doctor, after a careful examination, told her she had tuberculosis, but not very far-advanced and assured her, if she would follow the directions which he outlined, the disease would in all probability become arrested and her normal strength return. He explained to her how tuberculosis was caused by a germ, that the greatest danger, was to undernourished people, because their resisting power was feeble. He pointed out the things she should do and the things she should not do and advised her to make application for admission to the free State Tuberculosis Sanatorium.

Before she left the nurse gave her a package containing paper napkins, paper bags and sputum cups and told her, she should always carry a supply of paper napkins with her, and when she had occasion to cough and expectorate, she should cover her mouth with a napkin, expectorate into it and then place it in the bag. The sputum cups, which were heavy brown paper affairs made to fit in a man's pocket or a woman's handbag, each containing a pledget of cotton in the bottom to absorb the sputum, were to be used when she was out of the house traveling around. Both sputum cups and paper bags must be burned after use.

She promised Jennie she would call at her house very soon. Next morning, on her daily round of visits, the nurse with difficulty located her patient of the afternoon before.

The address given was Briggs Flats, top floor, Wall Alley, rear of Brown Street. She spent considerable time locating Wall Alley, finally she found an opening answering the description and Briggs Flats loomed tall and gloomy. Passing through a dreary entry way,

the nurse, with the aid of her pocket flash light, climbed the dark stairs in safety. Flight after flight she ascended, until their cessation indicated she had reached the top floor. After unsuccessful attempts at three different doors, the patient was located.

The room, 15 x 15, contained a single half sized window which was closed. The furniture consisted of a bed, in a state of wild disorder, a tumble-down cot and a cradle made of a soap box on rockers, a



State Nurse in uniform.

great arm chair, sole survivor of better days, a home made bench and several small boxes provided the seating accommodations. A rickety table and a badly warped range, supported at three of its corners by broken bricks, completed the major furnishings. An alcove in the

wall, over which was stretched a tattered muslin screen, served as a cupboard for the scanty equipment of table ware and a storing place for the meagre food supply. The accessory outfit of pots, pans and cracked dishes were piled on the stove or thrust away in convenient corners or angles of the room.

When the nurse entered, Jenny was engaged in feeding the baby from a bottle, which bore strong suspicion of not having been recently washed. Two small children were interestedly and somewhat enviously, watching the operation. Jenny said her mother was away at work, scrubbing floors, and the two other children were at school.

Here was a case which required the exercise, to the utmost, of the tact and resourcefulness which comes to the State Nurse only from service and experience—a family of seven, dependent entirely upon the pittance brought in by a hard working woman, all of the family undernourished, living in unhygienic conditions and one of them, at least, a victim of tuberculosis.

The nurse asked when she might be able to see Mrs. Stone. Jenny said her mother's work kept her out all day and she never came home until after six o'clock in the evening.

Inquiry concerning the baby's milk brought out, that they had been using canned milk because it was the cheapest.

The nurse asked Jenny if she remembered what the Doctor told her about conveying her disease to other persons, particularly to the members of her own family. Jenny remembered and said she was as careful as possible. The nurse selected a few dishes from the family store and told Jenny to set them aside for herself, that she might eat with the rest of the family but she should use her own dishes and after using them, they should be boiled in a separate pan and kept by themselves until used again. She told her that fresh air was needed by the entire household and showed her how to fix the window so that they might have free ventilation.

She then re-arranged their sleeping plans so that Jenny might have the cot and sleep alone. She told Jenny that for the baby's safety, it was necessary not only that the nursing bottle be clean, but that it should be boiled before using, and in order that there might be no doubt about it, she gave her a practical demonstration as to how it should be done. Before going to visit any other patients, the nurse called up the Welfare Society and made a temporary arrangement for the sending of three quarts of milk daily to the Stone household for the use of the baby, Jenny and the other children.

The nurse next called upon the Wards. She had promised Bobby a pup and beside, she wanted to be sure the baby was getting the milk supply she had ordered. Except that the Wards lived in a basement, their circumstances and living conditions ran nearly parallel to the Stones. The father in jail, the mother scrubbing floors

all day and two little boys at home to care for the baby, so the State Nurse, who is housekeeper, welfare worker, Santa Claus and nurse all rolled into one, went from place to place, here bathing a baby, there cooking a meal and again perhaps, scrubbing the floor, always bringing cheer and help and comfort—and so she goes her daily rounds.



The Ward Home.

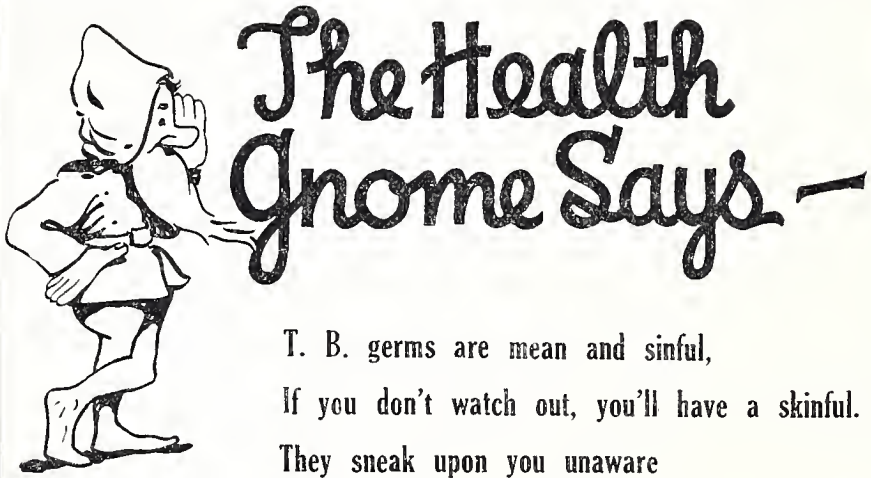
When she re-visited the Stone family, she found the mother at home. Mrs. Stone, while appreciative of the milk supply, which had been sent by the Welfare Organization, was inclined to resent outside interference in the management of her household affairs.

When the nurse suggested that, for the safety of her children, as well as the opportunity for her daughter, that Jenny be sent to the free Sanatorium for Tuberculosis, she made strenuous objections. By tactful argument the nurse at last succeeded in obtaining reluctant consent for Jennie to go. This, however, was only a partial victory. The family still lived amid bad hygienic surroundings, was undernourished, with low resisting power and liable to contract tuberculosis.

The nurse was able to persuade the mother to send all of the children to the Clinic for examination. She made application for aid to the Mothers' Assistance Fund and referred the condition of the tenement house to the Bureau of Housing. Even with the correction of the building, she felt that more desirable quarters were needed for the Stone family. She helped the mother to find better rooms and arranged with her employers that Mrs. Stone might go home in the

middle of the day to give the children attending school, the necessary attention. She also arranged with the Day Nursery in the neighborhood, to look after the smaller children. She made out a plan of diet, with a list of foods obtainable within the family income. She had the dental defects of the children corrected at the Dental Clinic.

When the notice came, setting the day for Jenny's departure to the Sanatorium, the nurse met her at the station, secured her ticket and sent her on her way to Mont Alto, filled with hope and confidence that within a short time, she would return to her home with renewed strength to enjoy, with the rest of the family, the wonderful changes, which in their lives was an epoch, but to the nurse a mere incident of the daily routine.



T. B. germs are mean and sinful,
If you don't watch out, you'll have a skinful.
They sneak upon you unaware
But cant stand sunshine and fresh air.

HELIO THERAPY AT CRESSON

By W. G. Turnbull, M. D.

Director, Cresson, Pa. Free State Tuberculosis Sanatorium.

Plants deprived of sunlight grow pale, sicken and die. Animals raised in dark places do not attain normal strength or development. Just how much does the lack of sunshine and the failure to expose the skin to the air have to do with making children sick, and how much can sick children be helped by properly regulated doses of sunshine and air exposure?

This is one of the questions for which an answer is being sought at the Pennsylvania State Sanatorium at Cresson. Two hundred and twenty-five children between the ages of six and sixteen are being cared for in the Institution.

About one-fifth of these children are suffering from active tuberculosis. The remaining four-fifths are of the type usually seen in

Sanatoria for children and variously classed as "incipient", "pre-tuberculous suspects" or "contacts". They are underweight, under-nourished, anemic, with more or less glandular enlargement, and a tendency to irregularities of temperature. They are the type with which we are all too familiar outside Sanatoria and of which every school room furnishes too many examples.

For six years the children in this Institution were treated by ordinary methods. They were encouraged to remain as much as possible in the open air, but no effort was made to increase air or sun exposure beyond this point.

Three years ago it was decided to try the sun treatment on the children, the so-called heliotherapy.

In applying this treatment a special class was made of the sick children and those having surgical complications. These were placed on blankets on the lawn under the care of a nurse. Their exposure to the sun was regulated according to the principles laid down by Rollier, the feet alone being exposed for fifteen minutes the first day, the time of exposure and the area exposed being increased from day to day. After exposure of the entire naked body was secured, a maximum of three hours' exposure daily was decided upon, this being divided into two periods of not over one and one-half hours each. The nurse was held strictly responsible for avoiding sunburn.

The results from this treatment have been extremely encouraging.

The treatment of the larger class of ambulatory children has been of greater interest to the visitors to the Institution. From the first it seemed inadvisable to restrict normal activity or to interfere with school work to the extent necessary for carrying out complete heliotherapy with these children. A modified form of treatment was therefore adopted. The boys were dressed in the lightest cotton bathing suits that could be procured. For the girls a loose fitting one piece bifurcated garment was made reaching from the point of the shoulder blade to the middle of the thigh, and held up by narrow shoulder straps. Shoes, stockings and underclothes were discarded. These suits were worn constantly at school and at play. The children remained out of doors during rainstorms as well as during the sunshine, no attention being paid to the wetness of their scanty clothing.

While it is inadvisable to be too positive as to the relations between cause and effect, it is the opinion of those who have been handling the children for the past nine years that they have never done so well or improved as rapidly as they have during the past three years. It is certain they have never been as happy or looked as well.

The filling out of wasted arm and shoulder muscles, and the disappearance of glandular enlargements have been two of the marked results of this treatment. During the period of sun treatment the children have enjoyed remarkable freedom from ordinary colds and nasal infections in spite of their exposure to all sorts of weather

and utter disregard of wet clothing. Their eyes have seemed brighter, their vitality greater, their appetite better, their sleep sounder, and their improvement more rapid than ever before.

Unfortunately it is impossible for heliotherapy to be carried out in this climate during the Winter months. No better proof of the results of this treatment can be secured, than from the change of sentiment in the children's department as to the benefits from Summer or Winter treatment. It was formerly an axiom in the Institution that one Winter was worth two Summers. Since the introduction of heliotherapy the approach of Winter with its clothing and its colds is looked upon with dread.

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*"You are old, Father William," the young man cried;
"The few locks which are left you are gray;
You are hale, Father William, a hearty old man;
Now tell me the reason, I pray!"*

*"In the days of my youth," Father William replied,
"I remember'd that, youth would fly fast,
And abused not my health and my vigor at first,
That I never might need them at last."*

ROBERT SOUTHEY

PENNSYLVANIA'S WAR ON FLIES

One May morning in the year 1919, the Commissioner of Health, recently released from military service (where flies were few) very casually remarked to the Chief of the Division of Public Health Education, who had also observed the scarcity of flies in army camps, "We must rid Pennsylvania of flies and it's your job."

Accordingly plans were made—the easiest part of any undertaking is—making plans. Given a sharpened pencil—plenty of paper and a reasonably vigorous imagination and plans, for the reconstruction of the Universe, if need arise, will flow and spread like freshets of early spring. But, as one Robert Burns observed:—

"The best laid schemes o' mice an' men, Gang aft agley."

Desk made theories, however brilliant are prone at times to weaken and fade under the stress of practical application and it was early discovered there was something lacking in our elaborately prepared program for the extermination of flies.

In the first place—there was a marked difference in the aftermath, between a military command given to soldiers and a polite request (backed by however much sage counsel) extended to a citizen body.

Next, in many sections of the State there was found to exist (to put it mildly) a lamentable "deficiency of information" as to the danger from the house fly.

In some instances aside from their annoying invasion of Grandpa's bald head and their dogged persistence in dropping into the soup, they appeared to be regarded as Heaven sent blessings—scavengers of filth and guardians against evil.

We were without educational literature and the fly season was already upon us. And so, when we found the plans wouldn't work out, we scrapped them and started in to learn our job.

For a number of years a committee of the Civic Club of Harrisburg had been waging a hopeful, if ineffectual warfare against flies, by paying a certain price per quart for dead ones.

The resultant reduction of the fly population by so many bushels each summer was perhaps helpful, but did not in any wise retard the remaining flies from raising large and energetic families. Race suicide has no part in the ethics of fly life. However, as the existing committee was made up of earnest, through-going women, we decided to make them the official fly campaign team, the State Department of Health aiding and supporting.

The municipal authorities readily agreed to co-operate, the local ordinances were sufficiently drastic to rid the city of flies, if enforced, but shortage of funds prevented the appointment of the inspectors necessary to ferret out and get rid of the fly breeding places.

Six inspectors from the Engineering Division of the State Department of Health, were accordingly detailed and sworn in for city duty to make a complete inspection of Harrisburg. Every stable owner was

notified that manure must be removed twice a week. Garbage containers were looked after and those who from carelessness or motives of economy made use of boxes, fruit crates, paper bags and the like as receptacles for kitchen offal, were warned that they must have fly tight metal garbage cans before the next inspection.

All vacant lots were mowed, to discourage their use as private garbage dumps. Outside toilets were ordered screened and vaults darkened.

The city provided large quantities of borax and lime which were distributed free for use in stables and privies.

On the second inspection, several weeks later, the few who had not heeded the notice, were arrested and fined. after that, violations were infrequent.



Fly Poster No. 1.

Harrisburg in 1919 had a population of 75,000 and covered an area of 6 square miles. The first inspection kept six men busy for two weeks. The second took the same force only four days. The cost of the first inspection was \$300, of the second \$100. Subsequent inspections took even less time and, of course, cost less money.

While the inspectors were looking after breeding places, the fly campaign committee was busy circulating literature (which had in the mean time been prepared), holding meetings, giving lantern slide lectures, showing motion pictures, getting articles in the newspapers and enlisting the aid of churches, clubs and societies.

One commercial establishment purchased 20,000 fly swatters which were distributed from door to door by boys.

Another gave away large quantities of sticky fly paper.

Boy Scouts made fly traps and girls distributed mosquito netting. the newspapers published fly articles—it was a big team working for a big result—and it came.

At the close of the summer inspectors again made a tour of the city, this time to ask the lawyer, the doctor, the baker, the grocery-man, the housewife, "How did the flies of this summer compare as to numbers with previous summers?" The sum of several thousands of answers was: "There was a reduction of 75%."

The next year, 1920, the first state wide fly campaign was launched.

The progress of the state wide fly campaign of three summers is not within the scope of this article. It does, however, seem fitting to announce the conclusion arrived at. This may be stated in a few words—

IT CAN BE DONE

And now is the time to begin.

Don't wait until the fly season is on but start now.

Get your team together for the spring CLEAN UP.

As to literature, "The Life Story of a Fly" and "The Plague of Flies" can be obtained on application to "The Listening Post." So can the "Outline for the conduct of a fly campaign." The posters shown in the illustrations and known as numbers one, two, three, and four, are prepared by the Pennsylvania Department of Health; in size they are 14" x 12½" and are also issued free upon application.

As soon as you have organized your committee, get in touch with your local Board of Health. You not only need their backing but their co-operation. Send the names of your officers to the "Listening Post," Pennsylvania Department of Health. We want to keep in touch with every fly campaign committee and stand ready to help so far as we are able.

Flies hatch from eggs. They cannot mature unless three conditions be present—WARMTH, MOISTURE and FOOD. All of these are found in manure heaps and decaying matter.



Fly Poster No. 2.

If the Board of Health happen not to have sufficient funds to employ an inspector, perhaps some local welfare society may provide for the expenses. Considering the good accomplished, the amount necessary is surprisingly small.

One town of 5,000 in Pennsylvania was inspected by the local policeman, who divided it into six sections. It took an hour to inspect each section and by taking one a day, he made the rounds every week.

After general interest has been aroused by proper publicity, once in two weeks is often enough for a sanitary inspection. This means ten or twelve inspections during a summer.

One man can inspect a town of 5,000 in a day. Twelve days at \$3.00 amounts to \$36.00.

Inspection must be followed by ENFORCEMENT. A well advertised arrest for violation of the health regulations, causes more unhappiness in fly land than a barrel of fly swatters, but swatters are good things to have. They not only reduce the fly population, but provide a pleasing diversion for unoccupied persons.

Almost any day last summer, had you stopped at a certain well patronized road side Inn, less than a thousand miles from Harrisburg, you would have found the guests all armed with fly swatters. It did not appear good form to be without one, and your heart would have been gladdened to note the spirit of friendly rivalry which prevailed among those enthusiastic fly hunters as they exultantly compared the numbers of their kills, while the complacent host beamed benevolent approval.



Fly Poster No. 3.

As there are few better means of advertising than the handle of the fly swatter, it is usually an easy matter to induce the business interests of any town to contribute swatters free of charge.

All municipalities should have ordinances protective against flies, but the regulations of the State Department of Health are applicable to the entire State regardless of ordinances.

The advantage of re-enacting Department regulations into ordinance is, that accruing fines for violations go to the municipality, otherwise they revert to the county.

The following is a brief summary of the provisions of the State Laws and Department Regulations. Complete text will be furnished upon application—

Fruit and vegetables exposed for sale must be screened and elevated two feet above the side walk.

Privies and cess pools must be fly tight and may not overflow.

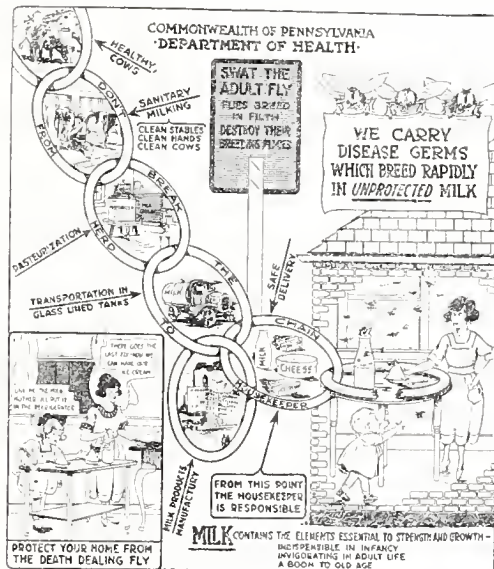
Contents of privies and cess pools shall not be used within corporate limits or within 700 feet of any habitation unless subjected to treatment.

Garbage and offal may not be thrown in gutters, streets or ravines or remain exposed on the surface of the ground.

Pig Sties shall not be maintained within 300 feet of an inhabited house on an adjoining property.

Manure may not be allowed to accumulate where it may be a source of fly breeding.

Violation of Rulings of the State Department of Health are punishable by \$100 fine or imprisonment of one month or both.



Fly Poster No. 4.

To sum up—the main points of a successful fly campaign are **PUBLICITY—EDUCATION—and DESTRUCTION of BREEDING PLACES**—to accomplish which are necessary **TEAM WORK** with continuous and persistent **EFFORT** and rigid **ENFORCEMENT** of fly prevention **ORDINANCES, LAWS and REGULATIONS.**

TENEMENT HOUSE IMPROVEMENT IN PENNSYLVANIA

BY

JOHN MOLITOR, Architect, Chief, Bureau of Housing.

A housing problem exists wherever any portion of a population dwells under conditions dangerous to health, safety or morality. The problem is present to some degree in every community. It is occasioned primarily by lack of guidance of city growth, by poor planning of buildings, faulty construction and defective sanitation. It is aggravated by the greed of some landlords, the carelessness of some tenants, and ignorance of the laws of hygiene by both.

The result of bad housing is ill health, both physical and moral, and thereby industrial inefficiency, and a long chain of preventable social maladies, which place a heavy handicap upon individual, social and community development.

A healthy, strong, and vigorous body of citizens is a most valuable asset to any community. The individual is the unit which must be kept clean, strong and well. Collectively, individuals form the community and a union of communities constitutes a nation, therefore, if we are desirous of building up a nation to a high standard of efficiency, we must take an interest in our home and the homes of others in the community.

Investigations of housing conditions throughout the State by the Bureau of Housing have revealed the fact that you can not always judge a building by fine outside appearance. Often a tenement house has all appearance of being a well built structure, but a look into the interior arrangement shows that no thought has been given to the adequate lighting and ventilating of inside rooms.

The following photographs and diagrams show a few examples of poor arrangement and the alterations made, after orders were issued to the owner by the Bureau of Housing to correct the unsatisfactory conditions.

This tenement house contained forty dark and unventilated rooms arranged as shown by shaded areas in Diagram B, before alterations were made as shown in Diagram C.

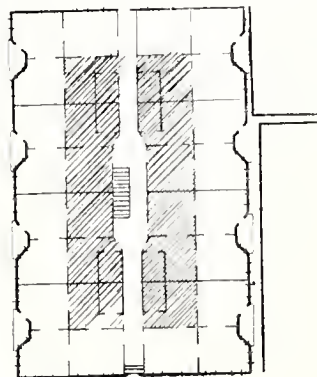


DIAGRAM B
FIRST AND SECOND FLOOR
BEFORE

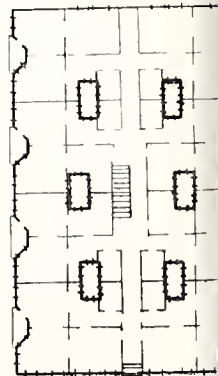


DIAGRAM C
FIRST AND SECOND FLOOR
AFTER

This tenement house contained twenty-four dark and unventilated rooms arranged as shown by shaded areas in Diagrams E and G, before alterations were made as shown in Diagrams F. and H.

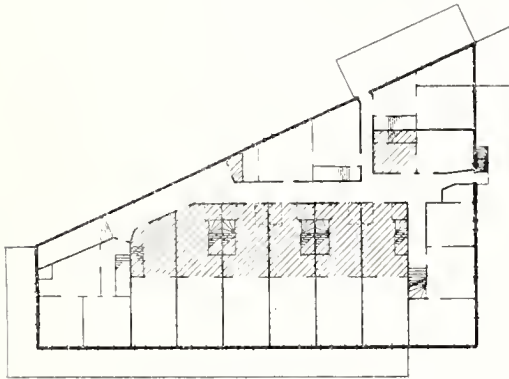


DIAGRAM G
SECOND FLOOR PLAN
BEFORE

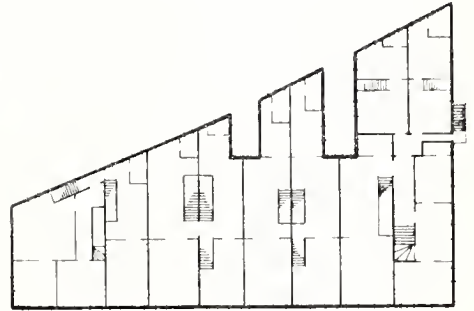


DIAGRAM F
SECOND FLOOR PLAN
AFTER

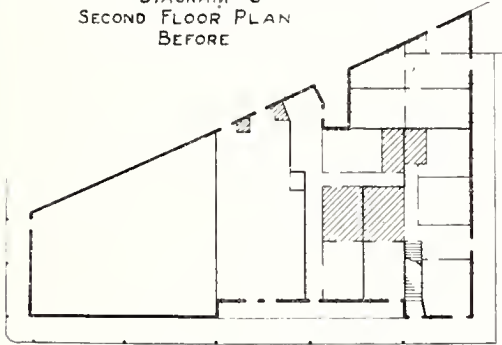


DIAGRAM E
FIRST FLOOR PLAN
BEFORE



DIAGRAM H
FIRST FLOOR PLAN
AFTER

County Medical Directors, health officers, district nurses and other health workers in pursuance of their duties should note any condition of a tenement, lodging or boarding house which is unsatisfactory and report same with data to the Bureau of Housing for correction. Under the Act of July 24, 1913, the Bureau of Housing is given the power to correct insanitary conditions in tenement, lodging and boarding houses.

Those who report existing insanitary conditions in such buildings are not only rendering a service to their own community, but also to their State. Every action by the individual in relation to the betterment of housing conditions, is a movement toward the establishment of the elements of personal character, of industry, and of co-operation and enterprise which are essential to a progressive and enlightened citizenship.

DEPARTMENT CHANGES

Colonel Edward Martin, Commissioner of Health, presented his resignation to Governor Sproul to take effect January 16th. Colonel John D. McLean, Deputy, has been appointed Acting Commissioner by Governor Pinchot.

Dr. Thomas W. Jackson, Assistant to the Commissioner of Health, has obtained a year's leave of absence from the Department and will occupy the position of Staff Physician for the Brazilian operations of the Dwight P. Robinson Company, Incorporated.

James F. McCoy, late private secretary to Governor William C. Sproul, has resumed his place of executive secretary for the Pennsylvania Department of Health. During the absence of Mr. McCoy the position of executive secretary was filled by Clinton T. Williams, Chief of the Division of Accounts.

WHY PHYSICIANS AND BOARDS OF HEALTH SHOULD CO-OPERATE.

By Dr. C. P. Stahr.

There are nine hundred and ninety-nine reasons why Physicians should co-operate with Boards of Health and not one why they should not. The fundamental reason for co-operation is, that they have the same objective.

Boards of Health are created for the prevention of disease and the conservation of health. The aim and purpose of modern medicine is just that, and therefore the members of the medical profession, to be true to their high calling, must be the leaders in what has come to be recognized as the most important, most vital sphere of the profession's activity, "preventive medicine" as it is called.

The physician today who does not do all in his power to prevent the incidence and check the spread of disease, who does not support and contribute to all efforts of Health Departments, local, state and national, in the education of the people, along the lines of the conservation of health, is not living up to the ideals of the medical profession.

It can truthfully be said that all the work of a Board of Health is educative. If we establish quarantine, abate a nuisance, improve a water or a milk supply, we are educating the public in health matters. We may be forced to prosecute John Jones for expectorating

on the side-walk, for violating the quarantine laws, for maintaining a public nuisance, for selling milk with low butter fat and in so doing punish him, but there is an educational effect from this prosecution in addition to the mere punishment. A Board of Health has a perfect right to look to the medical profession for support, assistance and co-operation, that the influence of the educational factor may be more far-reaching.

When we ask ourselves the question, "Do Boards of Health have and enjoy the co-operation of the medical profession?" I am afraid we have to admit that there is some ground for argument.

Even though as we have seen, The Public Health Service, our State Department of Health and our Local Boards of Health are actuated, by the same motives that have won for the medical profession the admiration and respect it enjoys today: is it not unfortunately true that the much desired co-operation is often times conspicuous by its absence?

Granted that we are right when we state that the primary object of the various activities of a Board of Health is educational and that we are fair in our assumption that the members of the medical profession are also educators to a great degree and along the same lines, let us see what proper co-operation, between these two educators, can and will do toward helping the work of a Board of Health.

First—Quarantine.

Quarantine, the Health Officer's bugaboo. Isn't it a fact that if people really knew the significance of the contagious disease placard, they would resent the visit of the Health Officer far less?

Education again, people must be taught that the sign on their house means more than a certain amount of inconvenience to them.

When people understand that the placard is put up as an aid toward preventing disease, as a protection to their friends and neighbors, the opposition to the same and their resentment to the established quarantine is bound to fade.

Here is where proper co-operation of the family physician comes in. A simple, fair, explanation of the real reason for quarantine is what we ought to expect from the family doctor. Do we always enjoy co-operation here, I am afraid not.

How much easier and more satisfactory will be our control of diphtheria, if the necessity for exclusion from school and public places, if bacteria carriers and all possible carriers, were brought to the attention of people by their physician.

Failure to report cases of communicable diseases on the part of physicians is rare we believe, but it would never happen if our doctors kept the educational idea always in mind. Why should it be left to the health authorities to exclude wage earners from their work in certain cases? The physician should prepare the family for what he knows to be right and just and if this were done the visit of the health officer would be far more pleasant to him and less of a jar to the family. Especially true is this when we have an outbreak, say of

diphtheria, in the family of a dairyman or dairy farmer. Recently there was an outbreak of diphtheria at the University and in Charlottesville, Va. This outbreak was traced to a dairy where the milk bottles were capped by hand. One of the men doing the work who had had a sore throat, never examined or treated, frequently wetted his fingers to separate the caps. Cultures from his throat showed bacilli. Diphtheria developed in homes supplied by the dairy and twenty-six carriers were found.

Too often the health officers have to bear the brunt of shutting from market products of a dairy on account of the incidence of a communicable disease in families on the premises, when a few words from the family doctor would relieve the situation and the danger would be removed with less of a jar to all parties interested. The case just stated is a grand argument for the periodic medical inspection of all employees handling food stuffs. "Bosh!" Some of our restaurant proprietors may say, but let his doctor tell him otherwise and he follows willingly and becomes anxious to get his establishment in line with what a few words from his medical authority have convinced him is for the protection of his own business.

NUISANCES IN GENERAL

How much opposition would there be to the efforts of a Board of Health to better general sanitary conditions of a town if the medical profession stood firmly back of them and preached constantly of a clean town, a healthy town. How long would insanitary privy vaults, uncovered manure piles, fly breeders of all descriptions exist if the medical profession and Board of Health were co-operating in their efforts to get rid of them? We have great faith in the power of the voice of the medical profession. The physician is looked up to in his community and we need his influence, his interest, his co-operation, because he stands for just what Boards of Health are working.

HEALTH CAMPAIGNS

Health campaigns are becoming more popular every day. The people are getting awake to what conservation of Health means—"Swat the Fly," "Clean Up Week," "Anti Tuberculosis drives," nutrition classes all receive the indorsement of Boards of Health and medical societies alike. Surely co-operation between the two would mean greater success, more accomplished and a happier, stronger community.

Remember it makes no difference which of the two starts a movement along these lines. What we need is the shoulders of both against the wheel, and the public will be unable to resist that push.

MILK SUPPLY

Who knows better than the up-to-date physician what clean wholesome milk means to a community? He has the babies to feed, the sick to attend, and he wants, for his patients and for himself, milk which he knows is right.

He probably numbers among his patients dairymen from whose dairies he would not care to get his own family's milk supply. Here again the physician can be an educator. The milk supply of any community or town can be just what the people demand, just what they are satisfied with. Let the standard be high and the dairymen will come up to that standard, let the community be indifferent and the dairymen will be also indifferent.

Physicians know what milk ought to be, Boards of Health know also, for they have the high standard of the State Department of Health to guide them. Let both co-operate in educating the people. This done, the battle is won, for the dairyman needs customers or out of business he goes, and if he can't educate himself in proper milk production, if he can't be clean, if he can't meet the demands of the public and the requirements of the Board of Health, the sooner he goes out of the milk business, the better for the babies and adults sick or well of that community.

Let us strive for the ideal, the medical profession and the Board of Health of the community, hand in hand, shoulder to shoulder, voices blended for general health education, which is the real business of a Board of Health.

May we ask the medical profession at least, in the words of a sport writer of a Philadelphia paper, "If you can't boost, don't knock."

THE CALF-PATH

One day through the primeval wood
A calf walked home as good calves should ;

But made a trail all bent askew,
A crooked trail as all calves do.

Since then three hundred years have fled,
And I infer the calf is dead.

But still he left behind his trail,
And thereby hangs my moral tale.

The trail was taken up next day
By a lone dog that passed that way ;

And then a wise bell-wether sheep
Pursued the trail o'er vale and steep,

And drew the flock behind him, too,
As good bell-wethers always do.

And from that day, o'er hill and glade,
Through those old woods a path was made.

And many men wound in and out,
And dodged and turned and bent about,

And uttered words of righteous wrath
Because 'twas such a crooked path ;

But still they followed—do not laugh—
The first migrations of that calf,

And through this winding wood-way stalked
Because he wobbled when he walked.

This forest path became a lane,
That bent and turned and turned again :

This crooked lane became a road,
Where many a poor horse with his load

Toiled on beneath the burning sun,
And traveled some three miles in one.

And thus a century and a half
They trod the footsteps of that calf.

The years passed on in swiftness fleet,
The road became a village street :

And this, before men were aware,
A city's crowded thoroughfare.

And soon the central street was this
Of a renowned metropolis ;

And men two centuries and a half
Trod in the footsteps of that calf.

Each day a hundred thousand rout
Followed this zigzag calf about

And o'er his crooked journey went
The traffic of a continent.

A hundred thousand men were led
By one calf near three centuries dead.

They followed still his crooked way,
And lost one hundred years a day ;

For thus such reverence is lent
To well-established precedent.

A moral lesson this might teach
Were I ordained and called to preach :

For men are prone to go it blind
Along the calf-paths of the mind,

And work away from sun to sun
To do what other men have done.

They follow in the beaten track,
And out and in, and forth and back,

And still their devious course pursue,
To keep the path that others do.

They keep the path a sacred groove,
Along which all their lives they move :

But how the wise old wood-gods laugh,
Who saw the first primeval calf.

Ah, many things this tale might teach—
But I am not ordained to preach.

Sam. Walter Foss.

TEMPORARY SCHOOL EXCLUSION OF PUPILS SHOWING SYMPTOMS OF CONTAGIOUS DISEASE.

Under the provisions of the Act of July 17, 1919, teachers are required to promptly exclude pupils showing symptoms suggestive of communicable disease. Pupils thus excluded in cities, boroughs, and first-class townships cannot be re-admitted to school unless they present a report from the official board of health physician, certifying that they are free from contagion or infection.

If the excluded child be found by the board of health physician to be affected with a communicable disease, the case must be placed under quarantine and the pupil will be readmitted to school upon the presentation of the health officer's release from quarantine.

In the latter case the board of health physician shall also report to the teacher, advising that the child is found to be suffering with a quarantinable disease. Said report shall always be returned to the teacher within forty-eight hours. Otherwise the teacher is obliged to report the case to the attendance officer for action under the provisions of the Compulsory Attendance Law.

The very closest co-operation should be obtained between teachers, attendance officers, and boards of health, in order to avoid the spread of communicable disease through the medium of the public school. Such co-operation will insure a higher percentage of school attendance and save the community money in doctor bills.

The school Health Division of the Department of Health has provided a sample form for use of school teachers in carrying out the provisions of the law on this subject. This form contains a detachable notice to be sent to the health officer, with the board of health physician's report blank on the reverse. Samples of this notice (form BH) may be obtained by addressing the Department. Local boards of health or school boards should have their own notices printed in conformity with this sample.

A special notice, form 43, is provided by the Department for use in second-class townships of the Commonwealth. In these districts, teachers are required to refer children to the family physician, there being no board of health in such districts.

The following form, which can be obtained upon application, is to be used by a board of health physicians of **BOROUGH**S.

Form BH 2

BOARD OF HEALTH PHYSICIAN'S REPORT

To be Returned to the Teacher Within Forty-Eight Hours.

To the Principal or Teacher:

This certifies that I have examined.....

Age....., residing at.....

and find him or her

}	*suffering from....., a contagious or
	quarantinable disease. (name of disease)
}	*free from any contagious or infectious disease or condition
	transmissible to others.

**Strike out statement not applicable.*

.....M. D.

Board of Health Physician.

.....19..... Address.....

If quarantined, the health officer's certificate of release from quarantine is required for re-admission to school.

In cases of trachoma, pink eye, tonsilitis, scabies, impetigo, ringworm, head lice, favus, or lupus, the pupil will be re-admitted upon a physician's certificate attesting to recovery and freedom from contagion or infection.

Sec. 9. (Act of July 17, 1919). Every teacher, principal, superintendent, or other person or persons in charge of any public, private, parochial, Sunday, or other school having in any such school any child or person showing an unusual rash or skin eruption, or complaining of soreness in the throat, or having symptoms of whooping cough, or any disease of the eye, shall immediately exclude such child or other person from the schools pending the action of the health authorities, and shall report such fact to the health officer of the city, borough, or township, giving the name and residence of such child.

Section twenty-six of the same act provides that any physician, teacher, principal, parent or guardian, or other person who shall fail, neglect, or refuse to comply with any provisions of this act,—shall be subject to a fine of not less than twenty dollars nor more than one hundred dollars or imprisonment of from ten to thirty days.

SEPTIC TANKS

By W. L. Stevenson, Chief, Engineering Division

Sewage is the spent water supply made dirty by use.

It contains feces, urine, fragments of waste food from kitchen sinks, soap, etc. In perfectly fresh sewage most of the fecal matter and fragments of food are in a solid undissolved condition. But when sewage has flowed long distances through sewers or is retained for several hours in a tank part of these solids become dissolved.

Usually the first step in all methods of purifying sewage is the separation of the solid undissolved particles from the liquid. This can be accomplished in a properly designed tank having a capacity that it can hold several hours' flow of the sewage. A typical design is shown in the cut.

Most of the solids settle to the bottom of the tank and form a watery mass called "sludge" which from time to time must be removed and disposed of in a sanitary manner similar to that required of night soil from privies and cesspools.

The liquid flowing from a septic tank contains all the dissolved matters present in the sewage entering the tank and in addition all the solids which have been dissolved while the sewage remained in the tank in contact with the decomposing sludge.

As the greater part of these dissolved solids are organic waste matter, they are highly decomposable and become very offensive, unless proper precautions are taken for the disposal of the effluent liquid.

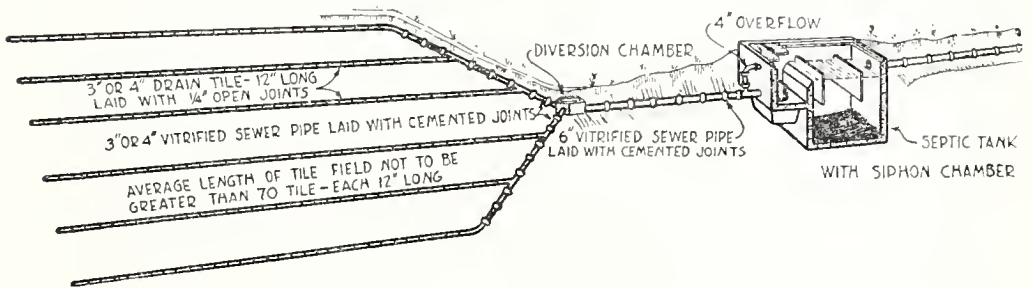
Of even more importance are the disease germs which may be contained in a liquid from a septic tank. It is a well-known fact that the excreta of persons suffering from typhoid fever and other intestinal diseases contain the germs which are the cause of such diseases. Also persons who do not show any outward manifestations of these diseases may harbor the germs in their system and at times discharge them. There is, therefore, always the possible danger that sewage may contain these disease producing germs.

Contrary to popular belief these germs are not completely destroyed in a septic tank but do pass out of the tank in the liquid effluent.

The effluent of a septic tank if not properly disposed of may, in addition to creating a nuisance, become a serious menace to the public health. Hence, it should never be discharged upon the surface of the ground, into a gutter or a dry ditch.

In small installations a satisfactory method of disposing of the effluent is through its dispersion in the upper layers of the soil by means of a system of open joint agricultural tile.

A site must be selected where such disposal will not endanger any water, well or other source of drinking water. The effluent of the septic tank should be collected in a small tank containing an automatic syphon which discharges the liquid into the tiles. A typical design is shown in the cut.



The total length of tile used depends on the volume of sewage to be handled and the perviousness of the soil.

For example, a loose sandy soil will require about forty lineal feet of tile for each person whose sewage is tributary to the tank, while a denser loamy soil may require 75 or 100 feet of tile. Clay or other impervious soils are unsuitable for the purpose because the liquid cannot percolate away.

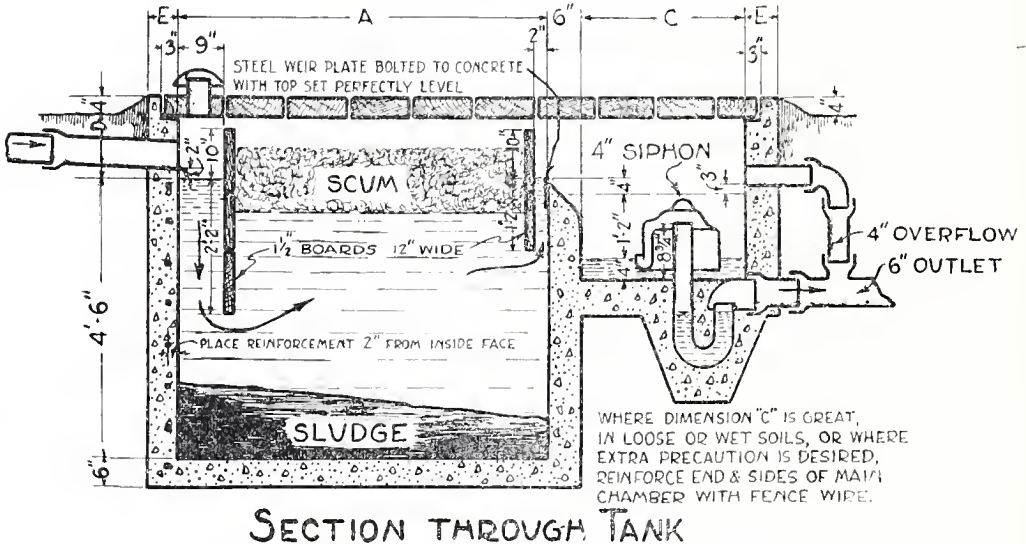
The tiles should be laid on a descending grade of about 2 inches per 100 feet.

Septic tanks are sometimes proposed for use within the built-up portions of towns. This is generally a mistake.

It is unwise to collect and dispose of human excreta on land adjacent to dwellings.

The collection and disposal of sewage in a municipality is a public function and should be accomplished by means of a public sewer system.

The cost is ultimately cheaper than the individual installations on private property and with the public sewer system the individual property owner is at no annual expense.



The useful field of the small septic tank and subsurface irrigation field is in the rural district where sewers are impracticable because of the long distances between the various dwelling houses.

VENEREAL DISEASE PREVENTION

By Dr. E. S. Everhart, Associate Director,

Genito-Urinary Division.

The work of venereal disease control received a tremendous impetus during the World War when it was learned that for every man who contracted venereal disease while in the Service with a venereal disease contracted in civilian life. Following the lead of the Federal Government, the States adopted an anti-venereal disease campaign. Pennsylvania has gradually developed a comprehensive program which includes medical, educational and law enforcement measures. The State has under its control, 53 Genito-Urinary clinics. In addition, there are 153 hospital clinics where patients are treated either free or for a nominal fee. In the State clinics indigent patients are treated until they are rendered non-infectious or cured. The doctors associated with the State clinics act, as educators in their communities, by addressing bodies of men and women including business and church organizations. A vast amount of educational work is now carried on. Communities are stimulated to adopt measures to eradicate bawdy houses and diminish prosti-

tution, as practiced, by other means. The authority given to the medical personnel of the State Department of Health allows them to institute quarantine measures when necessary. The law provides that persons with gonorrhea and syphilis in its primary and secondary stages and chancroid are subject to quarantine when by their character, occupation, habits or neglect of treatment and method to protect others, they are menaces to the public health. It also provides that prostitutes may be quarantined before a physical examination has been made.

In the beginning, the Genito-Urinary Division realized that the only effective means of quarantine was in institutions set aside for that purpose. Venereal cases are not amenable to the same discipline as patients suffering with other diseases. Therefore, as a rule quarantine in their own homes is impractical. 32 detention houses have been set aside for the quarantine and treatment of venereal diseased public health menaces. The Department of Health supplies medical and nursing personnel as well as medicines for the treatment of patients held in these houses.

Hospitals are urged to establish free and pay clinics. Persons presenting themselves to the State clinics who are able to pay a nominal sum charged by a hospital or for the services of a private physician, are promptly referred for treatment. Wherever possible, patients are referred to hospital clinics, when they are out of the infectious stage. A patient presenting himself to clinic is required to continue treatment until he is at least rendered non-infectious. A follow-up system has been adopted which requires patients to return to the clinic (or provide other means of treatment) while infectious. The clinic questions new patients as to the source of their infection. When it is possible to learn the source of the disease, the suspected person is sent for and examined. If the suspicion be substantiated, he or she is put under treatment. If he or she refuse treatment, quarantine is enforced, since authority is given to take that measure with any person reasonably suspected of having a venereal disease.

Act No. 116, 1921, distinctly sets forth that local boards of health have the same authority in the matter of quarantine as has the Department of Health. From time to time, owing to the marked growth of venereal disease control work, boards of health will be called upon to handle syphilis and gonorrhea just as they have dealt with smallpox and typhoid fever. It is as necessary to protect the youth of each community from "big pox" as from "little pox".

The need for more and better detention houses is great. The contagious disease Act allows County Commissioners to build contagious disease hospitals. These should be increased and venereal disease quarantined therein.

The abatement and injunction law, which gives the authority to perpetually close houses for the use of immoral practices, should be utilized in all cases where health raids have taken place.

The law dealing with advertisement of venereal disease cures, enacted in 1921, forbids the advertising of nostrums and of "quacks". Local health officers can be of material assistance in detecting such

advertisements and notifying the local drug stores and owners of the property that such advertisement is contrary to the law. Neglect to remove these obnoxious advertisements should be reported to the State Department of Health.

By means of seven paid lecturers, the Division has assisted its clinics in the educational work necessary. Use is made of motion pictures, exhibits and pamphlets in presenting the subject. Medical societies, business men's organizations, women's organizations, employees of manufacturing concerns and other groups have been addressed. The increase of interest manifested by groups of men and women augurs well for the future.

HEALTH IN THE KINDERGARTEN.

By John D. Donnelly, M. D., Asst. Chief, Division of Child Health.

The kindergarten offers the earliest opportunity (outside of the home) for teaching health habits and the discovery of physical defects which otherwise might not be noticed until the child arrives at the school age. Therefore it may be said that on the kindergarten training depends to no small degree, the comfort, health, growth and happiness of the child.

KINDERGARTEN ROOM.

The kindergarten room should be well ventilated without drafts. If possible it should have a southern exposure. The chairs should be of such height as to enable children to sit comfortably with their feet on the floor and their backs supported.

For the customary lunch which is usually served about ten o'clock, a glass of milk with Graham crackers is nutritious and refreshing. If children bring their own lunches, they may be permitted fresh fruit (ripe) and plain sandwiches with milk.

WEIGHT AND HEIGHT.

The kindergarten record of children's growth may be taken as a fair index of their health and development. Although there is an accepted standard weight for height, the weight and height of healthy children of similar age vary according to race, heredity and individual factors.

There are some children of the active type who are constitutionally thin yet show none of the symptoms of malnutrition. However, all children falling 10% or more below normal weight should be given physical examinations by a physician and placed under his observation.

MALNUTRITION.

Many parents fail to recognize malnutrition in their children. If they be thin, it is attributed to heredity. If their progress be slow, it is liable to be charged against the teacher.

The best single guide for gauging malnutrition is based upon the relationship existing between height and weight. Other evidences are nervous irritability, tiredness, difficulty in remaining quiet, capricious appetite, chronic constipation, inattention at school and difficult concentration. Those responsible for children's care during the kindergarten age should see that their nutrition is properly maintained. Malnutrition often lays the foundation for more serious diseases, such as tuberculosis.

More common causes of malnutrition are physical defects, such as bad teeth, diseased tonsils, etc.—Bad food habits, rapid eating with out proper mastication, irregular meals, food insufficient in amount or improper for age, over-activity, too much hard play, insufficient rest, long hours, excitement or inherited disturbances.

The kindergarten teacher should be alert to discover signs of such defects, so that the child may be placed under medical supervision. It is needless to add that unless the primary cause of malnutrition be removed, the child will enter life with a serious handicap.

HOLT'S STANDARD WEIGHT FOR HEIGHT.

HEIGHT	BOYS	GIRLS
37 inches	33.5 lbs.	32.3 lbs.
38 "	35.0 "	33.7 "
39 "	36.5 "	35.2 "
40 "	38.2 "	36.8 "
41 "	40.0 "	38.6 "
42 "	42.0 "	40.4 "
43 "	44.0 "	42.2 "
44 "	46.0 "	44.0 "
45 "	48.0 "	46.0 "
46 "	50.0 "	48.0 "
47 "	52.2 "	50.0 "
48 "	54.6 "	52.5 "
49 "	57.0 "	55.0 "

THE NERVOUS CHILD.

Nervousness in a child is often a danger signal. At four years a child may show well-marked nervous tendencies. They group themselves into two extremes—first, those showing degrees of excitability; second, those showing stolidity in character and actions.

Frequently the nervous child is extremely sensitive and timid. The teacher may have difficulty in getting the child to look her directly in the eye; others are unduly emotional, easily embarrassed and cry readily. Disturbed sleep is common in nervous children and may emphasize itself by dreams, night terrors, wetting the bed, moans, crying out in sleep, etc.

Two types of children bear special watching—the precocious and the seclusive. Precocious children may be so born and advanced intellectually without training on the part of parents or in spite of restraint. These children usually do well. More often, children with

at first little more than the average intelligence, at an early age are subjected in many ways to mental training, resulting in forcible attempts at character formation, or they may develop undue knowledge for their age by close association with older people. Precocity of this type is more apparent than real and should be guarded against, as premature stimulation of the mind may be fraught with ill effects later. It is well to observe closely, the child who does not make friends, who avoids companionship and does not play. Other forms in which nervousness manifests itself are in stuttering, habit spasms, fidgeting, often lack of attention and concentration. It must be remembered that a young child's attention cannot be held for any length of time, and concentration, if carried beyond a minute, is fatiguing.

The teacher should possess and exercise sympathy and discretion, ever ready to discover the thoughts and workings of the child's mind and to see things from the child viewpoint. By so doing she can gain and keep the confidence of her children and teach them self control.

All entertainments should be wholesome without undue excitement. Legends of monsters chasing the bad little boy or the witch who carries off the naughty girl at night, threats of all forms, tales of the darkness and of disturbing ghost stories should be avoided. It is not only a mistake but cowardly to play upon a child's fears. Many timid, sensitive children do not stand hardening. They cannot be bullied by their playmates into physical courage, nor can their embarrassment or whimsical ideas be knocked out of them by punishment of a physical nature. They must be treated gently and guided away from excessive play, study or excitement, otherwise the nervous condition, which is perhaps but a natural characteristic, may be increased and turned into a real nervous or mental disorder. As a rule the nervous child, kindergarten age or older, needs study in small and well diluted doses. Physical exercise performed regularly twice a day will do much toward developing nervous control. Medical advice should be sought in all cases where an unnatural nervous condition exists.

TEETH.

Good teeth are essential to health and good looks. Dentistry in later life cannot make up for the defects of early neglect. If the habit be formed, in early childhood, of properly caring for the teeth, it is likely to continue throughout life.

Dental decay is caused by dirty teeth and excessive indulgence in sweets. The first teeth need care and, if neglected, the permanent set may be injured. Here again the watchfulness of the kindergarten teacher comes into play. First teeth which are decayed should be filled or extracted. Bad teeth in youngsters are often the cause of toothache, gum boils, poisonous absorption from decaying teeth which may cause disease of the glands, joints or heart. Furthermore, such teeth prevent proper mastication and make digestion more difficult; they cause bad breath, spoil the child's looks and produce an uncomfortable child.

The kindergarten teacher should insist that every child, under her charge, have a tooth brush and she should have regular tooth brush drills in order to instruct the children in its proper use.

ADENOIDS AND TONSILS.

Picture of advanced adenoid condition:—Holds mouth open, (mouth breather) small narrow nostrils, heavy or snoring breathing, nasal voice, sometimes tendency to stoop shoulders, chest may be contracted (funnel shape) lower end of breast bone depressed; there may be a groove below the nipples and the child somewhat dull in appearance.

Adenoids may be suspected when frequent colds are accompanied by temporary deafness which may become permanent from repeated attacks; earache with or without fever, or discharging ear; cough on going to bed or lying down, or chronic discharge from nose.

Indirect effects of diseased or enlarged adenoids on health.

When obstruction is sufficient to interfere with breathing, sleep is disturbed, rest is poor, there is lack of vivacity, paleness, weariness and often headache. Continuance of these symptoms may cause irritability of the nervous system which may manifest itself in various forms. Tonsils when large enough to cause obstruction to breathing produce a similar picture, but cause more "throat trouble". When diseased they may show pits filled with cheesy material and favor infection and enlargement of the glands of the neck. Diseased tonsils are sources of rheumatism, St. Vitus' Dance, heart and kidney trouble. When the harmful effects of adenoids and large tonsils are seen, the child should be promptly referred to a physician for treatment.

COLDS.

Children are more susceptible to colds than adults, some appear to have a hereditary tendency. Conditions contributing to colds in children are improper clothing, housing, ventilation, feeding, lowered constitutional resistance, diseased tonsils and adenoids. Colds are communicable from one person to another.

COLD PREVENTION.

Medium weight underwear with light outer clothing in the house, sweaters and heavier wraps being put on when child goes out, with rubbers when indicated by the weather. Over-heated rooms and poor ventilation cause children to perspire when at play and consequently become susceptible to colds.

VISION.

Children often have poor vision, which is not recognized until they have been in school for a year or more. In the kindergarten defective vision may be suspected when the child exhibits difficulty in focusing upon objects at various distances. This usually manifests

itself by blinking or watering of the eyes, the head going forward to help shorten the distance of vision or the child, due to inability to see an object plainly, may suddenly in disgust cease looking at it. In such children, sometimes the eyelids appear sore and styes develop. When faulty vision is suspected, the child's eyes should be examined and refracted by an eye specialist. In this way further strain will be relieved.



Typical Kindergarten Scene.

SPEECH DEFECTS.

The two most common faults in speech are stuttering and faulty articulation. Stuttering is a defect of co-ordination. In some stutterers this is not noticeable when they speak slowly, eagerness and excitement appear to cause speech co-ordination to fail. This condition is frequently associated with nervous instability or defective control. In some children co-ordination appears never to have fully developed. Boys are more liable to possess this defect than girls. Sometimes this is a result of children having mimicked a stutterer. They are, as a rule, intelligent, quick-witted, thoughtful and sensitive children. The fault is chiefly over words upon which emphasis should be placed and upon certain sounds, particularly explosives like p's, b's, t's and d's and the hard g and k. More rarely does the last syllable of a word cause stumbling in speech. Stutterers are usually free from this when singing or when reading poetry aloud, and in some instances, it is absent when whispering.

MANAGEMENT.

As in other defects, the stutterer should be examined by a physician skilled in defective speech work and his advice followed as to training and care.

To overcome this habit not only education of speech is required, but also improvement in the child's general health. As a rule, regular breathing exercises twice a day are of benefit. Daily practice in singing and reading aloud nursery rhymes assist speech co-ordination. When a stutterer stumbles on a word, he should be made to repeat it or the entire sentence. Prose should not be touched until rhyme and poetry have been mastered. The big point is that such children should be taught self-control and to speak slowly and quietly with an air of assurance.

DEFECTIVE ARTICULATION.

Under this heading is included lisping, baby talk and similar defects of speech.

Lisping or baby talk persisting after the fourth year should be regarded as abnormal. These children may be handicapped by parents, nurses and teachers conversing with them in baby language. The child who has to acquire the pronunciation and articulation of every syllable of a word cannot learn proper articulation or be taught to speak clearly, slowly and distinctly if adults insist upon baby speech. Like the stutterer, the old nursery rhymes are excellent means for speech training.

TICS, JERKS AND HABIT SPASMS.

It is quite difficult at times to distinguish between such irregular and apparent involuntary movements of different parts of the body as to whether they are pure habit spasms or St. Vitus' Dance. Certainly a child having twitchings of various groups of muscles, elevation of eye-brows, frowning, drawing one angle of the mouth to one side or who is fidgety, nods the head or shrugs the shoulders all without apparent cause, needs to be placed under medical observation. With these children it appears that as fast as they get rid of one movement they get another, this is more particularly true of habit spasms in which there is a repetition of one movement or one set of movements which often is diminished when the child is conscious of being observed. Children with St. Vitus' Dance may suddenly begin dropping things, for instance the knife, fork, book, etc., and attention to work will diminish; they will be unable to do sums and may have a stumbling or jerky gait.

CONCLUSION.

The installation of health habits in a kindergarten child can do much toward the maintenance of good health and physical development which will be the foundation for an active and useful life. The time to prevent trouble is in its beginning, and the beginning of most trouble in children is usually noticeable by the fifth year, often earlier. A kindergarten teacher can do no greater service to the child, the family and her institution, than to ever be on the lookout for mental and physical peculiarities in her charges, and direct the parents on the road to making sure that their children are well and physically fit upon entering their school career.

Names and Addresses of County Medical Directors of Penna.

ADAMS COUNTY

Dr. C. J. Crist, Gettysburg

ALLEGHENY COUNTY

Dr. A. H. Eggers, Public Safety Bldg., Pittsburgh

ARMSTRONG COUNTY

Dr. T. N. McKee, Kittanning

BEAVER COUNTY

Dr. John A. Stevens, Woodlawn

BEDFORD COUNTY

Dr. Wilmot Ayres, Bedford

BERKS COUNTY

Dr. C. A. Reber, West Reading, Reading

BLAIR COUNTY

Dr. A. S. Keck, Altoona

BRADFORD COUNTY

Dr. Carlyle Haines, Sayre

BUCKS COUNTY

Dr. T. B. Roberts, Wycombe

BUTLER COUNTY

Dr. Roy L. Stackpole, Butler

CAMBRIA COUNTY

Dr. W. E. Matthews, Johnstown

CAMERON COUNTY

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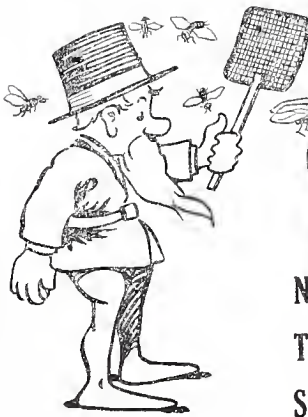
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The Health Gnome Says

Never let a chance go by
To swat the nasty, pesky fly;
Smite the rascal hip and thigh
Or he may get you by and by.





Issued Monthly
by The Division of Public Health Education
Penna. Department of Health

Vol. 1

MARCH, 1923

No. 4

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*“Know all the good that individuals find,
Or God and Nature meant to mere mankind,
Reason’s whole pleasure, all the joys of Sense,
Lie in three words, Health, Peace and Competence.”*

Alexander Pope

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William C. Miller, M. D.

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No. 4

ANY RAGS? ANY BONES? ANY BOTTLES TODAY?

Before the month of April has passed, Madam Fly will be on the job; her great objective, the founding of a numerous family, 150 eggs (if they hatch and mature) will mean 150 flies about equally divided as to sex. Barring accident, within two weeks, 75 zealous females will be cheerfully expectant of 75 new families of 150 each, and so they will go on, faithfully following out the scriptural admonition: "Be fruitful and multiply."

Fortunately for the comfort of mankind, there are frequent interferences with the hatching and bringing up of a fly family.

For instance, if Madam Fly deposit her eggs on a board, they will shrivel and dry up.

If she leave them on the grass, they will hatch, but the larvae will die from starvation.

For a successful issue, the eggs must be placed where there is moisture, warmth and food suitable for the ever hungry larvae. These conditions are found in the stable, the pig pen, the outside toilet and in accumulations of decaying animal and vegetable matter.

When Madam Fly goes house hunting, she turns up her nose, so to speak, at clean yards, tight lidded, shiny garbage cans, clean stables and screened toilets.

With a sniff of disdain she passes up such places as unfit and directs her search toward more agreeable quarters.

If her lines have fallen in one of those towns, where the slogan—**CLEAN UP AND KEEP CLEAN** — is a rule for everybody and not for the other fellow only, she will be, as they say in the army, "Out of luck."

NOW IS THE TIME to throw the monkey wrench, before the machinery is fairly started.

Presently the rickety wagon, drawn by the long haired, sleepy old horse, will be coming along, and we will hear the familiar spring time anthem, bawled out in raucous tones — "Any rags

any bones, any bottles today?" Don't disappoint the junk man -- clear out your trash —sell what you can and burn the rest.

The treasures which have lain so long in the attic can easily be spared, and you will be surprised to note how little they will be missed.

Old clothes, which will never be used — stacks of magazines which will never be looked at — band boxes with hats of ancient vintage — old shoes — broken furniture — and bric-a-brac of various kinds. JUNK, ALL JUNK.

CLEAN UP AND KEEP CLEAN means get rid of all junk from attic to cellar. Old bottles, jars, tin cans, ashes, decayed fruit and vegetables, dozens of things which are useless and in the way.

Rake the yard — clean and lime outside toilets — clean stables — remove manure and sprinkle the site with borax. Clean the gutters and ditches.

Let us all get together for a general CLEAN UP, not a clean up week — but a clean up campaign, to begin at a definite time and keep up as long as necessary. Let us wash Pennsylvania's face, comb her hair and brush her teeth, so that Madam Fly, her insect relatives and her disease germ friends, may find no joy or comfort anywhere.

No "lick and promise" performance, but a thorough "honest to goodness" effort to make cities, towns and homes, cleaner, healthier, safer and more attractive.

The State Department of Forestry, Police and Fire Protection are co-operating with the State Department of Health to make Pennsylvania's clean up, the "biggest and best ever."

April 16 has been selected as the time to start the work.

Get together now and get ready. When your organization has been completed, send a postal card, naming your officers, to the LISTENING POST.

A NEW PROFESSION

By

C. J. Hollister, D. D. S.,
Chief, Dental Division.

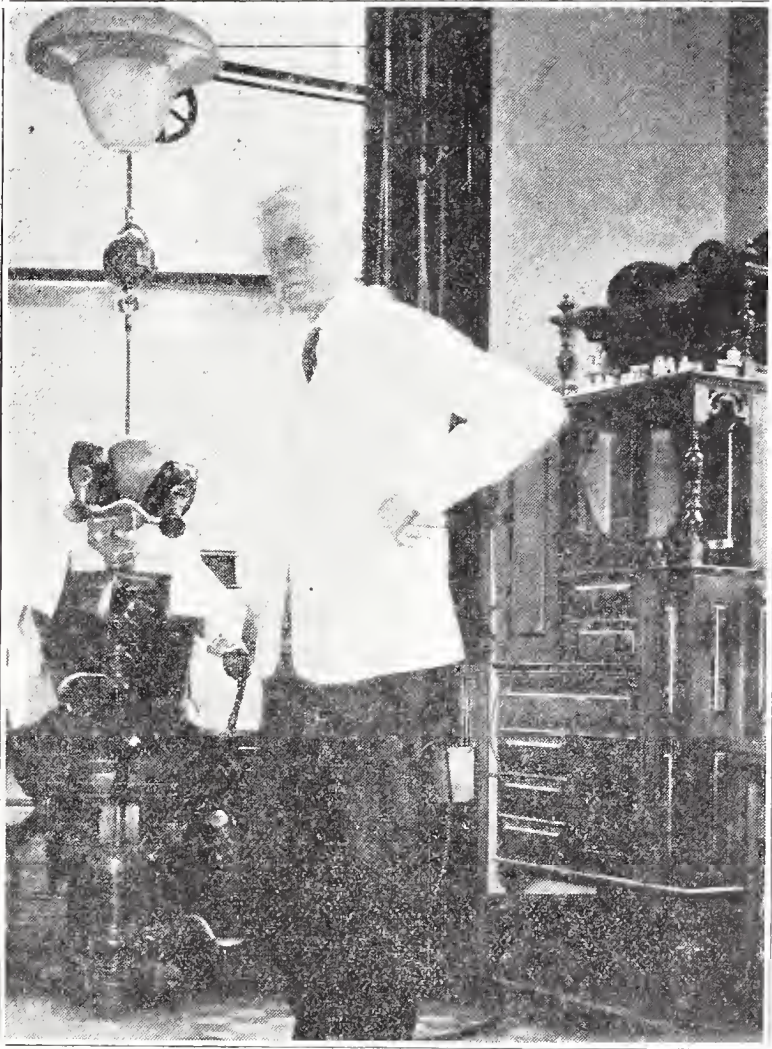
It is generally accepted that the condition of the teeth is a prime factor (often the deciding one) in individual health and efficiency.

Good teeth mean satisfactory mastication, normal digestion, proper assimilation.

Bad teeth mean insufficient mastication, retarded digestion, incomplete assimilation, malnutrition, plus germ breeding cavities, ab-

scessed roots, which cause rheumatism and kindred defects—bad breath and disfigurement.

And because children handicapped by ill-kept teeth are often backward in their school progress, to the added expense of school maintenance, the care of the teeth becomes a matter of public concern.



Dental Clinic, Bradford, Pennsylvania.

As the fact stands, 70% of Pennsylvania's school children have tooth defects; it would be difficult to make a definite estimate as to the additional cost to the schools, on account of children retarded in their progress because of dental defects, but it is high enough to be felt in every district.

The question arises: "Is there any way to remedy this condition, to wipe out the 70%?"

The answer is: "Yes."

“How can it be done?”

The public must cure the public ill. The solution is a practical one. Bad teeth can be fixed—therefore fix them. Public dental clinics have been in operation for sufficient time and in enough places to demonstrate their possibilities.

The dental clinic also presents distinct advantages to the dental profession; first, by lessening the amount of charity work done by private dentists, second, by the increase of their private practices, which is the natural sequence of publicity, due to dental work in the schools.

How a dental clinic may be organized.

First plan.

Dentists of towns arrange to give a certain hour, or hours per day or week to work on worthy cases, which have been recommended by community nurse or welfare workers. In smaller towns this has been worked out quite successfully.

Second plan.

In a room centrally located, equipment is provided either by tax funds or local welfare societies, such as Rotary, Kiwanis, Lions, Civic and Women's Clubs, local Red Cross Chapters and Tuberculosis Societies. This equipment can be supplied at a cost ranging from two hundred and fifty dollars up, depending on funds available—the operating dentist to be supplied for one or more half days per week by volunteer service, or if funds be available, to be paid on an hourly basis at a rate varying from two to four dollars per hour. Any plan for organizing local dental clinics should be endorsed by local dentists and their advice solicited.

Third plan.

Equipment to be supplied in same manner as noted in Plan No. 2, and funds made available to employ dentist on part or full time, on salary, by the hour or monthly basis.

Suggested Rates:

Per hour \$2.00 — \$4.00

Part time monthly ... \$50.00 — \$80.00

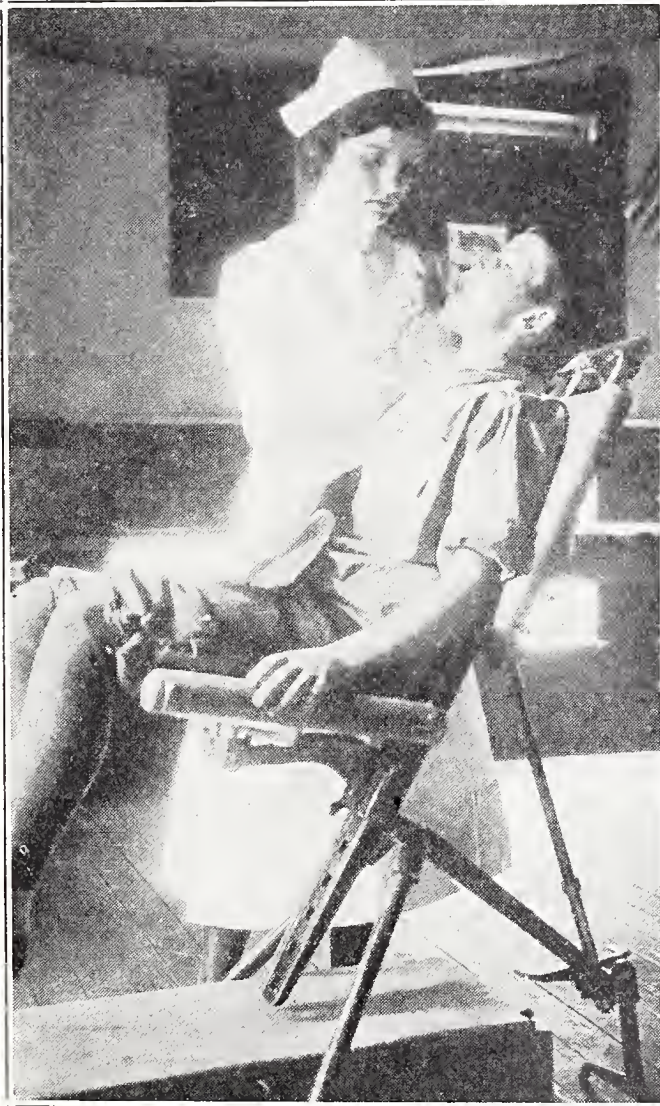
Full time annually ... \$1500 — \$2400

Community Dental Preventive and Educational Service.

Since dental defects are largely preventable, an educational program suggests itself as the first step in the solution of the problem of tooth troubles.

A new profession or vocation has come into being,—DENTAL HYGIENE. The operator, who is especially trained, is called a Dentist Hygienist. She is a cleaner of teeth and does no filling or extracting, nor does she make diagnosis, but she is more than just a cleaner of teeth. She is a teacher of Hygiene, both dental and gen-

eral, giving tooth brush drills and telling the HOW, WHY and WHEN of the tooth brush and is also trained to fundamentally teach: *what to eat and how to eat it*. The place to begin any educational work is with the child, for there you have a plastic and receptive mind. Health habits, both dental and general, can be inculcated in the child mind with better results than the adult.



Dental Hygienist at Work.

The practical prophylaxis accompanying the classroom work of the dental hygienist visualizes the value of mouth cleanliness, the child whose teeth have been cleaned has an awakened pride in his general cleanliness and appearance, his moral tone is elevated, and he is in the way of making a better citizen.

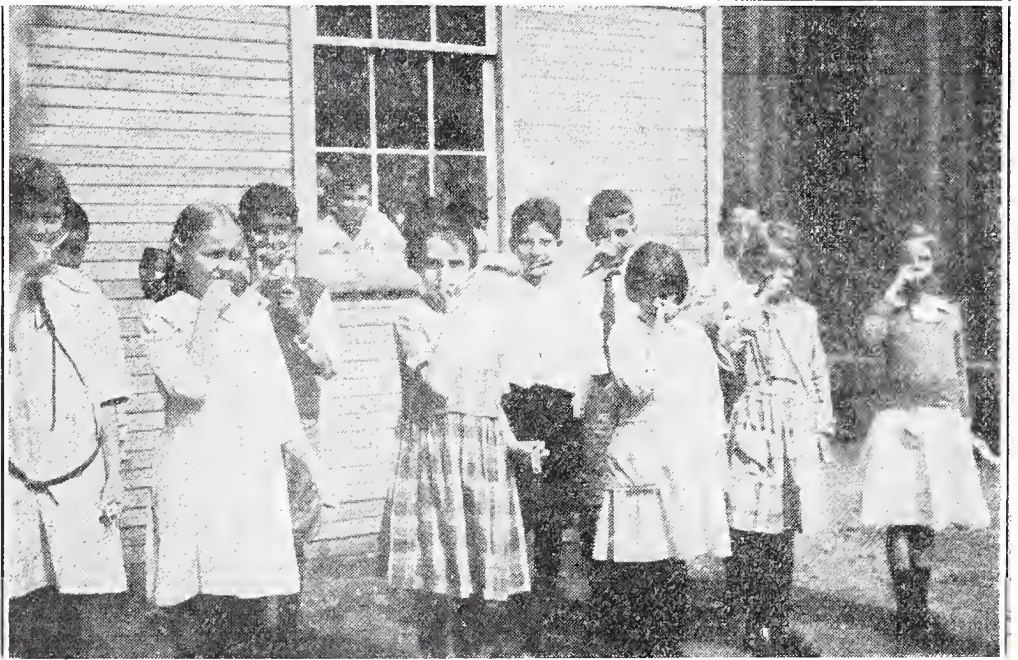
How a Preventive Dental Service may be established.

One dental hygienist in a two hundred day school year can clean the teeth of about sixteen hundred children. Dental hygienists can be employed for about one hundred dollars per month. The equipment, which is portable and permanent, costs about one hundred dollars.

The State Department of Education issues a partial teacher's certificate to dental hygienists, which means that a proportionate part of her salary would be paid by the State, thereby lessening the cost to the local school board.

The plan of operation of the dental hygienist is to set up portable equipment in some part of the school building, such as, Principal's office, rest room or even on the stair landing, any place where good light is available and as near running water as possible. It is advised that her work start with the first grade and be carried to the fifth grade, if possible. At the start, it is advisable to have the written consent of the parent or guardian of the child before cleaning his teeth. Even though the dental hygienist does not have time to do practical work in all grades in a building, it is of value to have her conduct the classroom work through the entire building.

The dental hygienist should work in each school building. It is a part of the child's school life, there is little or no interference with the regular school work, and also no problem of transportation.



Tooth Brush Drill.

Plan for Establishment of Preventive Dental Service.

In places where school population is not large enough to warrant employment of dental hygienists on full time, two or more such places can co-operatively hire and finance the work.

First—Financing Plan.

Money to provide salary and equipment of dental hygienist to be raised by local Red Cross, Tuberculosis Societies, Rotary, Kiwanis, Civic, Women's Clubs or Chambers of Commerce. This can and has been done either by any one of the above organizations, or co-operatively by two or more of them.

Second Plan.

Have above-named organizations request local school board to establish the service, the organizations assisting in the financing.

Third Plan.

The above organizations or any one of them request the school board to finance the plan.

Any community dental program proposed should have the advice and endorsement of the local dentists and in the dental hygiene or preventive service, they should be requested to act as an advisory committee.

In Bridgeport, Connecticut, where the dental preventive program was first installed, it was found that it lowered the cost of re-education fifty per cent, or to use actual figures, before dental hygiene education was a part of their school system, it cost forty-two per cent of their entire school budget for re-education. After five years of intensive mouth hygiene work, the percentage dropped to seventeen per cent. The difference between forty-two and seventeen per cent in dollars and cents was many times the actual cost of doing the work. It is cheaper to do this work than not to, to say nothing about the welfare of the individual child which cannot be estimated in money.

DEPARTMENT OF HEALTH NOTES

Dr. Charles H. Miner, former County Medical Director of Luzerne County, has been appointed Commissioner of Health, vice Edward Martin, resigned. Dr. Miner took the oath of office and assumed the duties on February 5th.

Dr. C. W. Webb, County Medical Director, Tioga County, died February 5th. The duties of the office will be performed temporarily by Dr. Charles W. Sheldon, Supervising Medical Director, located at Wellsboro.

Dr. Edward W. Bixby, 61 West Ross Street, Wilkes-Barre, has been appointed County Medical Director for Luzerne County, to succeed Dr. Charles H. Miner.

Dr. John D. McLean, Deputy Commissioner of Health, resigned to take effect March 1st. Dr. William G. Turnbull, Superintendent and Medical Director of the Cresson Free State Tuberculosis Sanatorium, since its opening, has been appointed Deputy Commissioner of Health.

Dr. S. Leon Gans, Chief of the Division of Venereal Disease Control, has resigned to take effect April 1st.

SANITARY CLEANING

Gaseous disinfection of premises at the termination of contagious disease, either by recovery or death, was a former regulation of the Pennsylvania Department of Health. This requirement has been re-enacted in numerous instances as borough ordinances and still stands on the statute books of many municipalities.

It is the consensus of medical opinion in more recent years, that what we term sanitary cleaning is equally, if not more, effective as a preventive of contagion than gaseous disinfection, especially as the latter in unskilled hands is often incompletely done.

Pennsylvania, in common with the majority of other states, has abandoned gaseous disinfection and substituted sanitary cleaning at the termination of all communicable diseases, except small pox in which formaldehyde gas is required and (in case vermin be present) a further disinfection with sulphur gas.

In order that there may be uniformity in regard to terminal disinfection, it is advised that local ordinances requiring gaseous disinfection, be amended by substituting sanitary cleaning in all instances except small pox.

For sanitary cleaning the cleaner will need:

- 1 — A gown or outer covering that can be boiled
- 2 — Soap, water, scrubbing brush and cleaning cloths
- 3 — Disinfecting solutions. These are poisonous if taken internally.
 - (a) Bichloride of Mercury (corrosive sublimate solution). 2 tablets ($7\frac{1}{2}$ Grs. each) to a quart of water. This solution will corrode metal.
 - (b) Formaldehyde solution. Four teaspoonsful of formaldehyde (at least 37%) to a quart of water.

The bichloride of mercury solution is applied by a damp cloth to walls, furniture and all wood work after the scrubbing with soap and water.

The formaldehyde solution is used to disinfect fabrics which cannot be boiled. Since it is irritating to the skin of the hands and the fumes cause a burning of the nose and eyes, it should be mixed in a vessel which can be covered and should be covered and should be applied by sprinkling, a whisk broom answering well.

With the clothing covered by a washable gown, the cleaner collects and places in a wash boiler the sick room clothing, bedding and fabrics which can be boiled without injury. They are boiled for half an hour.

Flannels, street clothing and woolen blankets are liberally sprinkled with formaldehyde solution (above) and lightly bundled

together for four hours; they are then thoroughly sunned and aired. A light sprinkling with diluted ammonia water, followed by another airing, will neutralize the formaldehyde fumes. If grossly soiled, they then may be cleaned in the usual manner (lukewarm, soapy water), or, if not of great value, they should be burned.

Eating and drinking utensils used by the patient are boiled.

Surface Disinfection. With soap and water scrub thoroughly all flat surfaces including wood work, floors, bedsteads and furniture. Pay special attention to handrails, door knobs and balustrades. Follow this cleaning by wiping down with a cloth dampened in bichloride solution; creolin, six tablespoonsful to a quart of water; or chlorinated lime, a heaping tablespoonful from a freshly opened can to a quart of water, may be used. This damp wiping should include the walls and ceiling.

Where the wall paper has been soiled with the discharges of the patient, it should be removed by soaking with one of the antiseptic solutions.

Airing. Following the sanitary cleaning, the room or rooms should be thoroughly aired and sunned (where practicable) for at least 24 hours before being occupied.

Following typhoid fever, if the discharges of the patient have been in a privy vault or cesspool, even though they have been properly disinfected, sprinkle into this vault from one to two pecks of *fresh* unslaked lime (air slaked, powdered lime is worthless) or else at least one pound of fresh chlorinated lime.

After removal of quarantine the patient should wash his hands with soap and water and apply the bichloride antiseptic solution after each visit to the toilet, and should disinfect his discharges as was done during the course of his fever. This precaution should be taken for the protection of others until the laboratory reports show that the discharges no longer contain typhoid bacilli.

The Health Gnome Says



*Kill the germs that bring disease—
Kill them any way you please,
But Bi-chloride and soap and water
Will down them, mother, son and daughter.*

BEWARE OF PUBLIC TOWELS!

A young married woman recently went into the ladies' rest room and lavatory of one of the downtown stores, washed her hands and face, and as there was no clean towel available, she used one already soiled. A few days later she developed an inflammation in her left eye. She saw her physician, who took a smear from the exudate of the eye, had it examined, and found it full of gonococci.

As gonorrhoeal ophthalmia is one of the worst afflictions which can befall a human individual, the doctor did the wise act and sent her to a hospital, where she could receive expert treatment constantly until cured.

Here is a case of unusual interest. Some sloppy criminal, suffering from gonorrhoea, had used this towel in the ladies' lavatory, and in a most unusual way infected an innocent woman!

True, such an accident might not happen once in a million times, but this woman happened to be the millionth!

Some years ago a still more unfortunate accident happened in one of our large factories. A workman used a dirty roller towel in the washroom, caught gonorrhoeal ophthalmia, neglected treatment, and became totally blind! — Buffalo Sanitary Bulletin.

BOARD OF HEALTH REQUIREMENTS

- 1—Board of Health must be regularly organized with full membership in accordance with law and must hold monthly meetings.
- 2—Board must make weekly reports to the Division of Vital Statistics, regular reports to the Division of Restaurant Hygiene and annual reports to the State Department of Health.
- 3—The Board must exhibit co-operation with the State Department of Health by prompt attention to correspondence.
- 4—Board must have the co-operation of the Council.
- 5—Board must receive an annual appropriation sufficient to carry on its work or must have satisfactory arrangement with the Council, under which all their bills shall be met.
- 6—Board must have an efficient Secretary.
- 7—Board must have an efficient Health Officer.
- 8—Board must be enrolled in District Association and dues paid.
- 9—Board must enforce quarantine.
- 10—Physicians must be required to make reports of all diseases notifiable by law.
- 11—The requirements of the Restaurant Hygiene Division must be carried out.

12—Disinfection after communicable diseases must be carried out in a manner approved by the Commissioner of Health.

13—The town must have adequate sewers or privies and cess pools maintained in accordance with the requirements of the Department of Health.

14—The Board must maintain regular sanitary inspection and eliminate nuisances.

15—There must be a wholesome and adequate water supply.

16—Board must maintain supervision over the milk supply.

17—The town must have clean streets and alleys.

18—The housing conditions must be in accordance with the requirements of the Bureau of Housing.

19—The anti-spitting law must be enforced.

20—The Health Officer must investigate rumors of reported disease, and cases thus found referred to the medical member of the Board for diagnosis and quarantine.

All Boards of Health in Pennsylvania are classified in the files of the State Department of Health in accordance with the above articles. There are 4 Classes, A, B, C and D, signifying in their order excellent, good, medium and poor.

The following scheme of classification has been adopted:—

Class A—observance of 20 Articles

Class B—observance of 18 Articles

Class C—observance of 16 Articles

Class D—observance of 14 Articles or less.

In what class is your Board?

It is the purpose of the Listening Post to publish a roster of the Class A Boards of Health of Pennsylvania in the June issue. All Boards which qualify before that time will be included in the list. Look for the name of your town. If you don't see it, find out why.

The borough of Aldan, Delaware County, which has been but recently organized, has already completed a sewer system and arranged for a visiting nurse service, which is maintained by the Board of Health. They report the nurse employed is of great assistance in quarantine enforcement.

DIPHTHERIA IN PENNSYLVANIA

There were reported in Pennsylvania during the year 1922, 16,617 cases of diphtheria; a reduction of approximately 20% from the reports of the year 1921, when there were 20,794 cases. We feel that much of the improvement in the morbidity report of this highly

transmissible disease is due to the intensive campaign waged against it by the State Department of Health.

County Medical Directors, Boards of Health, Health Officers, Nurses and Civic Organizations have awakened to the fact that diphtheria can be controlled. Those in charge of the special work being done against diphtheria appreciate to the fullest extent the help that has been secured from all.

The physicians of the State have been especially helpful in sending data upon which to base a comprehensive study of causes of failure to control both the morbidity and mortality.

During the year just closed, a study was made of the circumstances surrounding all deaths from diphtheria. Some of the facts brought out in this study were:

1. A criminally long average delay on the part of parents in securing medical aid—4.7 days from the onset of the disease.
2. Failure to immunize contacts; an average of but one person to each case having been given immunizing doses of antitoxin.
3. Too much dependence placed upon the laboratory to make the diagnosis.

Lessons to be learned:

1. Every case of sore throat should have a doctor see it at once.
2. Every child in contact with a diphtheria case should be given 1,000 units of antitoxin without delay.
3. Every case of sore throat or croup should be treated as diphtheria until laboratory proves it otherwise.

J. Bruce McCreary, M. D.,
Associate Chief Medical Director.

CAMPAIGN FOR DIPHTHERIA PREVENTION

Under the Auspices of

THE COMMITTEE ON PUBLIC RELATIONS

of the

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

In Pennsylvania, the diphtheria record, both in regard to its incidence and its case death rate, is not largely creditable to the profession. In some counties the case death rate is 24%. In other counties and localities it is down as low as 4%. This latter figure represents probably and for the present, its irreducible minimum.

Diphtheria can be prevented. It can be cured. But only by concerted action on the part of the medical profession.

The Medical Society of the State of Pennsylvania has taken upon itself the task—through its constituent bodies and its individual

members—of making a creditable showing before the whole world. It is taking its first concerted and organized step in preventive medicine. No such step can possibly be effective without the medical profession. Given full co-operation of all its members and a proper knowledge of the subject, such a step is bound to produce results beyond the reach of any organized department of health.

In April, there will be a DIPHTHERIA WEEK, organized by the Committee on Public Relations of the Medical Society of the State of Pennsylvania, and conducted by the members of the profession, grouped or individually.

The campaign will be conducted in such wise that knowledge of the causes of incidence and mortality shall be carried to every citizen; the press, the church, the schools, local health and governmental authorities, civic and welfare organizations, business, and labor, will all be enrolled.

To each county medical society will be sent a formulation of the present knowledge of diphtheria and the complete means for its control. This is to be sent for discussion, suggestions and criticism; the agreement concerning the means of control to be published in THE PENNSYLVANIA MEDICAL JOURNAL.

The state heads of the various organizations will receive a communication asking for their co-operation in the form of communications, addressed to subdivisions throughout the state. These subdivisions will then be approached by members of the medical profession organized in such working form that the entire membership may be reached. Sermons will be preached in the churches, lessons given in the Sunday schools and day schools, and business and labor organizations will be instructed by the medical profession. The press will lend its active support, both broadly through the state and locally. The citizen body will be enrolled in the campaign. The great power of organized medicine, as expressed through its individuals, will be utilized to the full.

Every doctor in the state is asked: first, to inform himself fully of the modern methods of diphtheria control; second, to carry this knowledge to all the people.

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The Pennsylvania Medical Journal, February, 1923.

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Penna. Department of Health

Vol. 1

APRIL, 1923

No. 5

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WHAT THE CAT THOUGHT.

*Often have I meditated
On great problems hard to settle,
Which my cat-heart fully fathomed;
But there's one which yet remaineth
Quite unsolved, uncomprehended--
Why do people kiss each other?
Why do mostly so the youthful?
And why mostly these in spring-time?
Over all these knotty questions,
I intend to ponder further,
On the gable-roof tomorrow.*

Joseph Victor Von Scheffel.

The Listening Post

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EDITOR

William C. Miller, M. D.

Address communications to The Listening Post,
Pennsylvania Department of Health,
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No. 5

THE DEFENSELESS KISS

Just when the practice of kissing started no one appears to know. It is recorded in the book of Genesis that Isaac old, feeble and almost blind, kissed his son Jacob. It is altogether probable that the custom existed long before that time, but for the present purpose that instance will suffice as a type of defensible kissing.

Jacob was old enough, big enough and strong enough to successfully resist, if the process were disagreeable or annoying to him.

This is not a dissertation on kissing in general, about which many arguments might be advanced pro and con.

Concerning all phases of defensible kissing, which vary in form of execution from the kiss received with dignified acquiescence to the one responded to with a spirit denoting enthusiastic co-operation, this article offers neither advice nor suggestion.

It is the kiss implanted upon the lips of the defenseless infant to which particular attention is directed.

Tuberculosis is by no means the only disease which is transmitted by the secretions of the mouth, but it will answer as an example.

Tuberculosis is usually contracted in infancy or early childhood and often as the result of the frequent and repeated kisses of tuberculous near relatives or friends. It may happen that the resisting power of the baby is sufficient to prevent the immediate development of the disease, but not enough to destroy the germs, which may remain passive for years, locked tightly in glands here and there throughout the body, until the onset of some great weakening process—Typhoid, pneumonia, a surgical operation—when all the combative forces of nature are called into action to resist the new condition. Then the germs of tuberculosis burst their bonds, and there is another case of so called "galloping consumption", which is evidence to the untaught that tuberculosis is hereditary, because the victim was born of tuberculous parents or because it was in the family, but which to the Health Student, is only a confirmation of well established precedent, that the disease was contracted years before and in all probability through the medium of kisses.

The desire to kiss a sweet faced baby is natural to every one, and to the Mother the temptation is well nigh irresistible.

It would be a hard heart indeed that would deny this natural expression of Mother Love, nor is such sacrifice asked. The baby has a soft round cheek that was made for kissing, why endanger its future welfare by kissing it on the mouth?

All parents do not have tuberculosis, but it is an insidious disease which may attack any person and may appear at any time of life—and there is no doubt about the truth of the statement that, if no babies were kissed upon the mouth, there would be vastly fewer cases of tuberculosis. Therefore, for the safety of these future citizens, make it the rule that Baby shall be kissed only on the cheek by the family and not at all by strangers.

METHUSELAH

“Methuselah, I will agree,
Lived many years,” said Doarch,
“But think how long he’d lived if he
Had used a sleeping porch.”

Luke McLuke.

We hate to call the scripture wrong,
But how can it be true
That any man could live so long,
And have his tonsils too.

Cleveland Plain Dealer.

Methuselah was very wise
As wise as any solon,
He kept his health for many years,
By tending to his colon.

Hygeia.

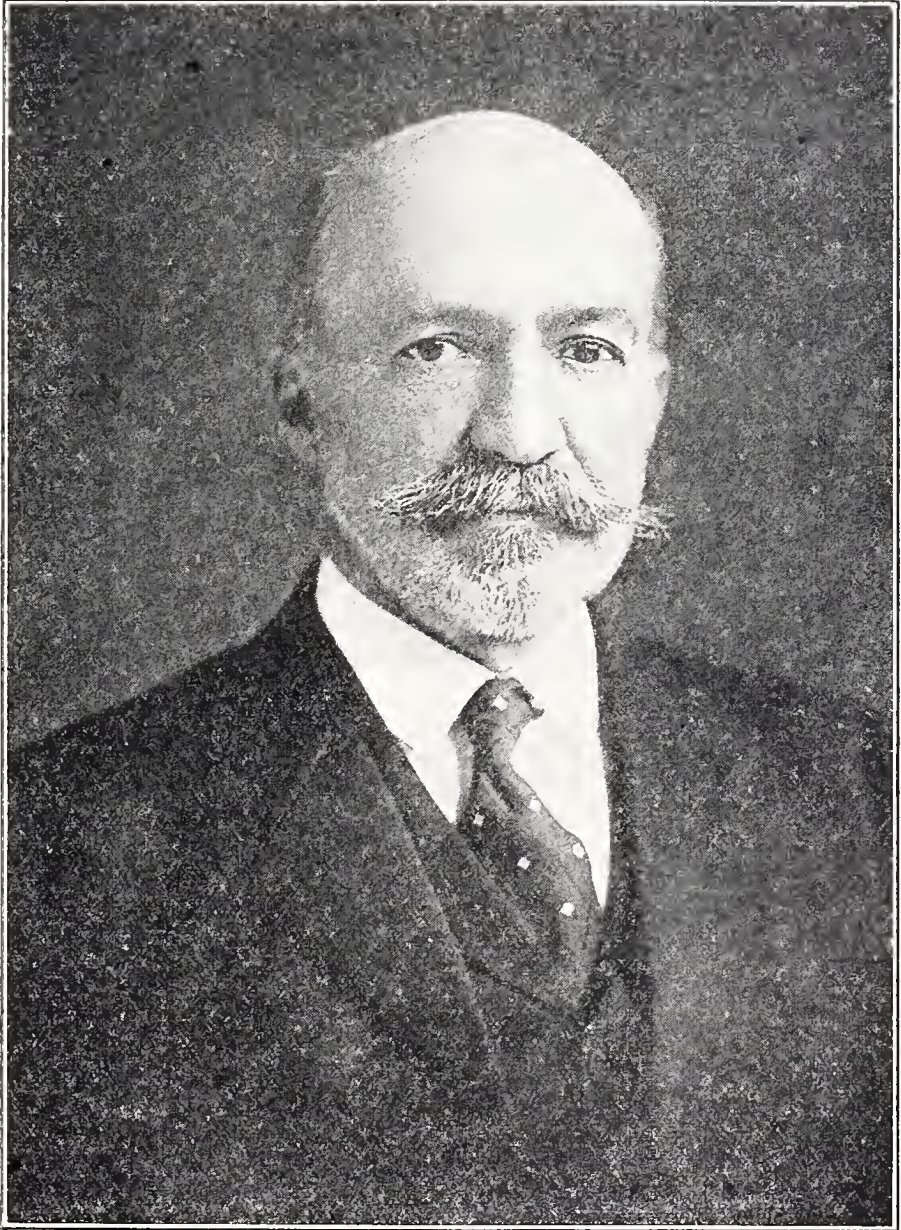
As the oldest man in history
Methuselah takes the prize
The reason? It’s no mystery
He took daily exercise.

PENNSYLVANIA’S COMMISSIONERS OF HEALTH

The Pennsylvania Department of Health was created by the Legislature of 1905. The Act invested the Commissioner of Health with extensive powers and carried with it a liberal appropriation.

The first Commissioner, Dr. Samuel G. Dixon, remained in office until his death in 1918. During Dr. Dixon’s administration, three great free tuberculosis sanatoria, totalling 2,000 bed capacity, were

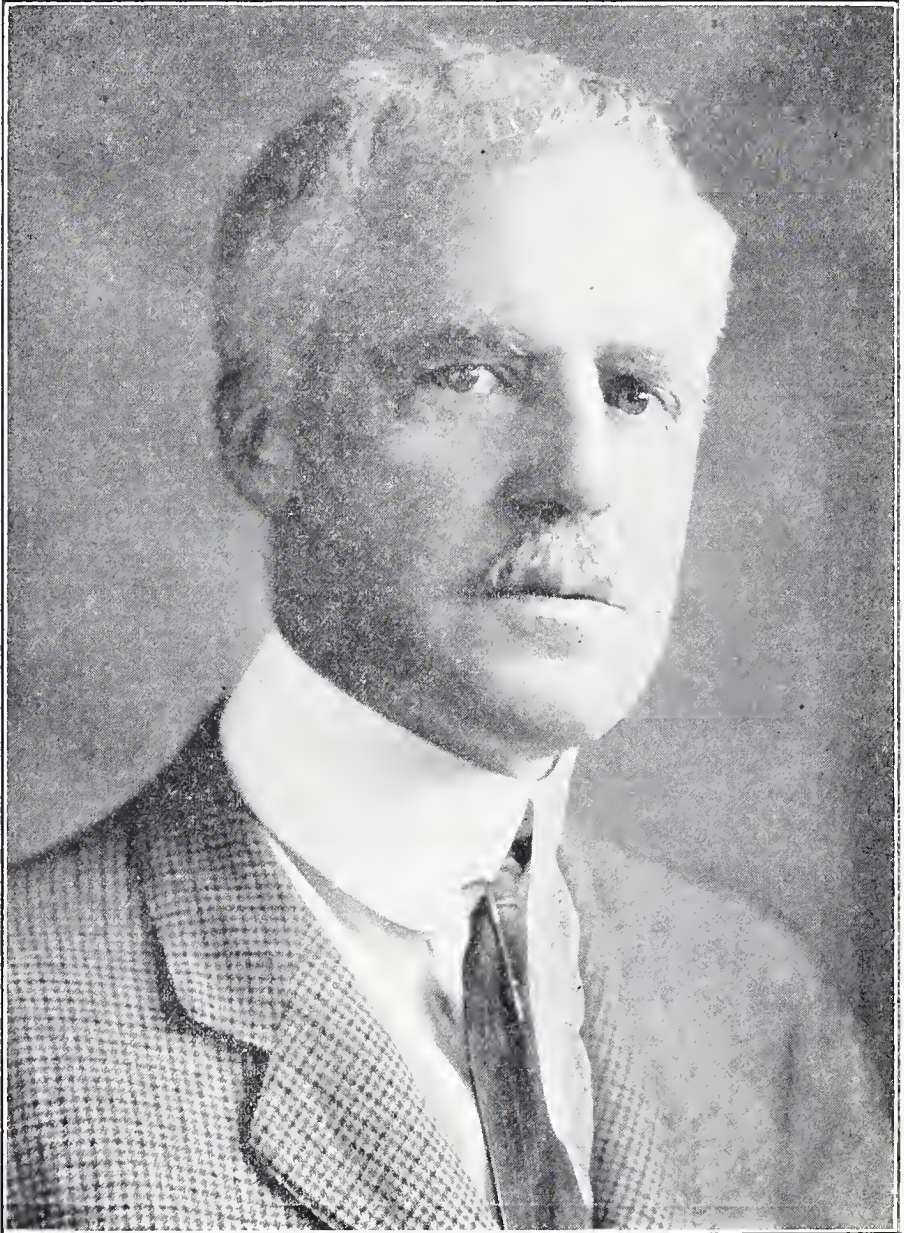
erected and maintained. 119 free tuberculosis dispensaries were established, caring for 20,000 patients annually. A survey of the watersheds of the State was made and, as the result of his insistence upon water purification and sewage disposal, the death rate from typhoid was reduced 75%. Anti toxins for diphtheria and tetanus were distributed free to the indigent. Medical inspection of schools was organized. Bureaus of Housing and Drug Control established, a laboratory of research operated and educational propaganda widely disseminated.



Dr. Samuel G. Dixon
Commissioner of Health 1905-1918

Upon the death of Dr. Dixon in March 1918, Dr. B. Franklin Royer was made Acting Commissioner and continued as such until January, 1919. Dr. Royer continued the policies of Dr. Dixon and in the fall of 1918 directed the emergency work of the well remembered epidemic of influenza, which cost the lives of almost 50,000 Pennsylvania citizens.

In January, 1919, Colonel Edward Martin, formerly Professor of Surgery at the University of Pennsylvania, became Commissioner of Health. Under his administration the already established ac-



Colonel Edward Martin,
Commissioner of Health 1918-1923.

tivities of the Department were continued, in addition to which the scope of the State Laboratories was enlarged and they were thrown open to the use of the Physicians of the State, diphtheria and tetanus anti toxins were distributed free to all citizens of Pennsylvania, an intensive campaign against diphtheria started, a state wide fly campaign put on, correspondence schools of health conducted, a Child Health Division established and an extensive program including prenatal care was instituted. A venereal disease prevention Division was created and a vigorous and effective warfare on social disease was waged. The scope of all existing Divisions was widened and the educational methods broadened. Colonel Martin resigned at the expiration of the term of Governor Sproul, which brings us to Dr. Charles H. Miner, the present Commissioner of health.



Meet Dr. Miner.

Dr. Miner comes from Wilkes-Barre where he has been engaged in general practice. He has for years not only been a student of, but has been prominently identified with, public health work.

He was made County Medical Director of Luzerne County at the beginning of Dr. Dixon's term and remained in charge of the public health administration of his county until his appointment as Commissioner of Health. When Dr. Dixon wished to establish a chain of tuberculosis dispensaries throughout Pennsylvania it was to Dr. Miner he turned for a plan of procedure. All the State Tuberculosis Dispensaries are today being operated after the manner of Dispensary No. 1, which was organized by Dr. Miner prior to the inauguration of the Dixon State Campaign against Tuberculosis.

Dr. Miner's many years of practical experience in the field have given him an intimate understanding of the public needs in regard to health. He will be handicapped by a reduced appropriation which the Health Department suffers in common with all other State Departments, but he will not be hindered, for he has worked out a plan of re-organization which by contractions in certain directions will permit expansions in others, so that the State Department of Health of Pennsylvania will continue to go forward and hold its accustomed place in the onward march of progress.

MILK REGULATIONS

by

Ralph E. Irwin, Chief, Milk Control Section.

There are no State regulations concerning milk sanitation. State legislation, however, does enable each municipality to provide for milk control, but only in a few instances has this authority been used. It was deemed advisable, therefore, to establish a milk control section in the State Department of Health, whose duty it would be to secure information pertaining to milk sanitation in the State, urge municipalities to assume the responsibility delegated to them and to assist in formulating practical local ordinances where such assistance is desired. There are regulations which are fundamental in all milk control, and an effort should be made to bring about uniformity in the regulations adopted by communities assuming the responsibility of control.

Complete milk control includes not only milk delivered by the distributor for household purposes, but also milk used for condensing, drying, and for the preparation of milk products, such as, ice cream, cheese, etc.

The milk control section has confined its activities to fluid milk used for household purposes and in public drinking places. About 45% of all milk produced is sold as market milk, either raw or pasteurized.

Milk control demands that a supply suited to the consumer's needs should meet the following requirements:

1. Milk shall have food value, to be useful.
2. Milk shall be safe, to prevent disease.
3. Milk shall be clean, to observe decency.
4. Milk shall have keeping quality, to be satisfactory.
5. Milk shall be fair in price, to insure production and consumption.

Food Value.

Milk is a necessity in the diet of growing children and unequalled in the promotion of health and energy in the adult. Wherever milk supplies are efficiently controlled, all health interests should unite to increase its consumption.

Considerable variation is found in the butter fat and other milk solids, such as sugar and casein, as these are affected by the breed of cows selected and the feeding and care of the herd. Also the food value of milk may be greatly changed with out detection by the consumer. State and municipal legislation have been necessary to control this condition. The State Department of Agriculture is charged with the enforcement of laws concerning minimum food values, the use of preservatives, etc.

The lawful minimum fat content of milk has been changed frequently. At present *3% butter fat is the legal minimum*. The fat content acceptable to the public is about 3.5%. The tendency now is to develop a breed of cows producing a large volume of milk containing not less than 3.5% butter fat. It is probably to the producer's financial advantage to sell a 3% milk, but it must be remembered that the producer receives only one-half or less of the price paid by the consumer. The consumer is demanding a product not only worth the cost of production, but also worth the additional cost of preparation and distribution.

Safety.

Milk is not always a food—it may be a poison—a transporter of disease causing loss of health and even life. Particular attention is now directed toward milk as a means of transmitting bovine tuberculosis, and typhoid fever and its allied diseases. When the thousands of sources of supply and the various methods of preparation and distribution are considered, the defeat of these diseases seems almost helpless. However, health officials recognized two methods of attack which were already in use by the milk industry, although for another purpose. Bovine tuberculosis is a scourge among cattle as human tuberculosis is among mankind. An effective attack is being directed against bovine tuberculosis through its detection by the tuberculin test and the separation of diseased cattle from those in good health. Herds thus freed from tuberculosis are at a

premium for breeding purposes, and this test is promoted by breeders to prevent the loss of valuable animals and to increase the value of cattle for sale. By taking advantage of this test and the conditions produced by its use, the dairyman is able to supply milk free from bovine tuberculosis. Certainly no dairyman desires to sell milk which will produce disease among his consumers, and especially among children, as it is the children who are most susceptible to bovine tuberculosis. The eradication of tuberculosis from the dairy herd is considered necessary by those who understand its value. Milk not known to be free from this infection should be pasteurized or treated in some way to make it safe.

Pasteurization.

As the centers of population grew, the source of milk supply was removed farther and farther away. Improved transportation could not fully overcome the increase in distance, and it became very difficult to deliver milk before it became sour. Gradually the heating and pasteurization of milk came into practice. In this way the souring of milk could be delayed two days or longer. Pasteurization for this purpose meant the heating of milk to a temperature only sufficient to keep it from souring for twelve or twenty-four hours after delivery to the consumer. Instantaneous heating or "flash pasteurization" was practiced as well as heating and holding, the degree of heat used depending upon the length of time it was desired to keep the milk after heated. Health officials, with an understanding of dairy bacteriology, quickly recognized that a method was at hand which might be used to insure the safety of milk as well as its keeping quality. After careful study and practical experimentation, it was found that heating milk to not less than 145°F. and holding at this temperature for not less than thirty minutes produced a milk safe from milk borne diseases. The margin of safety given by this method is sufficient for commercial purposes and in no way injures the market value of the product.

Thus it is seen that the tuberculin testing of dairy herds for milk delivered raw and the pasteurization of milk from untreated herds have placed bovine tuberculosis well under control. Also pasteurization, if properly carried on, will insure a milk free from other communicable diseases.

Factors of Safety.

It remains to place such additional safeguards about the two general safety methods just stated as will insure practical results. To safeguard a raw milk supply, it is not only necessary to have the milk free from bovine tuberculosis, but also such milk must be handled by persons free from communicable disease, and the containers must be free from infection. As adjuncts to these precautions, it is readily understood why a pure water supply is required for the dairy farm and a fly tight privy or cesspool is demanded. Likewise, those who come in contact with milk during or after pasteurization must be free from communicable disease, milk containers must be free from infection and flies and dust must not have access to pasteurized milk, treatment apparatus or containers prepared for filling.

The several factors mentioned are not required by State Law, but the State Law empowers cities, boroughs and townships of the first class to provide such milk regulations.

The responsibility for safe milk is a local one.

Cleanliness.

Clean milk and safe milk are not the same, although "the cleaner the milk the safer it is" may be regarded as an axiom. Clean milk may be regarded as milk of good flavor and appearance which may be used in the belief that the laws of decency have been observed during its preparation and delivery. The stable odor and the sediment souvenir are no longer characteristics of clean milk. The principal factor in cleanliness, as in safety is the human factor. Careful feeding, clean cows, clean hands, small top milking pail, thorough straining, prompt cooling and prompt delivery are factors in flavor, appearance and decency.

Keeping Quality.

The consumer desires milk that will keep sweet for twenty-four hours in the ordinary ice box. This demand for keeping quality, up to the present time, has done more to promote pasteurization than any other condition. Keeping quality has more to do with milk consumption than with safety. It is more a factor of quality and service. A sour milk may not be considered an unsafe milk. Poor keeping quality, however, indicates improper care.

Price.

A clean, safe milk is worth more in cash than unclean, unsafe milk; however, this fact is appreciated by only a small percentage of the people in the average community. The house-holder ordinarily buys the cheapest milk. So universal is this condition that a city of 100,000 will only purchase about 200 quarts of certified milk at 10¢ per quart above the usual market price, or 1000 quarts of clean, safe, raw milk at an advance of 2¢ per quart. In almost any community without milk control, an unknown distributor may enter the market and sell milk which is low in food value, unclean and unsafe at 1¢ per quart less than the usual price. Too many consumers consider price of first importance, keeping quality second, cream line third and forget cleanliness and safety entirely. Opposed to this is the fact that the consumer will quickly stop purchasing from a distributor, when it is discovered that a communicable disease has been traced to his milk supply. This method of eliminating unsafe milk, however, is too serious and too expensive both for the consumer and the distributor. It is apparent that the consumer cannot be relied upon to choose a safe, clean milk. Because of this, the distributor of clean safe milk cannot compete with a cheap, dirty milk. There is no financial stimulus to warrant the expense connected with the production of clean milk or safe milk. The producer is willing to furnish the quality of milk desired, if it will pay him to do so.

A herd tested for tuberculosis will probably have at least one reactor or tuberculous cow among every 10 cows tested. The tuberculous cow must be removed from the herd at a loss in cash. It costs money to install even a small steam boiler to cleanse utensils and bottles. It costs to analyze water and keep flies from filth. It takes time worth cash to keep cows, stables, yards, etc., clean and in a decent condition. The milk producer may not ask for an increase in the price of milk, he may simply ask that he be given protection for the investment required. This necessitates then, that the milk to be sold in a community shall in some way be defined in sufficient detail to guarantee fair competition among distributors. This can be brought about through the use of practical milk regulations. Should a community through an ordinance provide for the distribution of a raw milk and a pasteurized milk, some official in that community must be responsible for the sale of those two grades of milk according to the ordinance allowing their sale. No single factor so retards improvements in safety and cleanliness as the promiscuous sale of cheap, dirty, unsafe milk. These sales are more numerous during the spring and summer, when the legitimate distributor also has a surplus. The consumer, believing all milk alike, complains of the quality of milk received and restricts its consumption, thus lessening the demand for milk of good quality and denying a much needed food to those in the household.

The Health Gnome Says



*Milk is good for little girls,
Makes red cheeks and pretty curls,
It's good for little boys also,
Gives 'em pep and makes 'em grow.*

DEPARTMENT OF HEALTH NOTES

Colonel William J. Crookston has resigned as Chief of the Division of School Health, effective April 1, 1923.

Dr. Thomas S. Blair has resigned as Chief of the Bureau of Drug Control, effective April 1, 1923.

A complete digest of all the Health Laws of Pennsylvania is now in the process of preparation by James N. Lightner, Legal Advisor of the Department of Health.

Dr. S. Leon Gans has resigned as Chief of the Division of Venereal Disease Control, effective April 1, 1923.

Dr. Frank E. Sass of Boswell, has been appointed Acting Medical Director of Somerset County.

Hatfield, a town of 830 population, in Montgomery County, maintains a very effective supervision of milk supply. The health officer makes a semi-annual inspection of all dairies furnishing milk in the village and permits to sell milk are not issued, unless he finds a high standard of cleanliness.

Narberth, Montgomery County, population 3700, has combined with several adjoining townships to employ a full time milk supervisor. It would have been impossible for Narberth, or any of the townships individually, to have afforded this service. The scheme of combination of adjoining districts is good and will solve the problem of milk supervision for many towns and townships.

The borough of Yeadon, Delaware County, has a municipal ordinance requiring that all cellars be thoroughly cleaned and white washed annually. This ordinance has been strictly enforced.

The long looked for new Health Journal *HYGEIA* has made its bow. It is everything which was expected and more. Interesting to the physician, with sufficient avoidance of technical terms to be intelligible to the layman, it fills a needed want and deserves a wide circulation. The subscription price is \$3.00 per year, address American Medical Association, 535 Dearborn Street, Chicago, Illinois.

HELP!

The Restaurant Hygiene Section makes an earnest appeal for co-operation of all public health workers, especially County Medical Directors, Sanitary Engineers, Inspectors, Nurses and Social Workers connected with the State Department of Health, and offers the following suggestions:—

When you meet with any health official of a municipality, bring up the subject of Restaurant Hygiene. Ask if inspections of all public eating and drinking places are being made frequently, whether health certificates are being exacted, and if the Secretary of the Board of Health is making regular reports to the Restaurant Hygiene

Section of the State Department of Health. If they appear to exhibit a lack of enthusiasm on the subject or attempt to evade your questions, explain to them the danger the public is exposed to from insanitary conditions in public eating places; tell them how communicable diseases may be transmitted to unsuspecting persons by food handlers, who are diseased or carriers of disease germs.

The law requires every person employed in handling food and drinks served to the public (this includes proprietors and members of the family) to submit reports of medical examination.

Look out for common drinking vessels and roller towels in the wash rooms of hotels, restaurants and railway stations. When you see such conditions existing, call the attention of the proprietor to the unlawful practice and at the same time advise the Restaurant Hygiene Section of the State Department of Health.

At the close of the past year, a small percentage of boroughs was not credited on the Department records for Restaurant Hygiene work. There is no doubt that many of these places deserved credit, but did not receive it on account of the carelessness of the Secretary of the Board of Health in not sending in reports. The Department issued a form for this report which is very easily filled. This form, which provides for the number of places in the municipality, the number of times inspected during the month, the number of health certificates collected and the number of places complying with the requirements of the Restaurant Hygiene law, may be obtained free, upon application.

AN OBJECT LESSON

February 2, 1923.

John J. Jones, M. D.
County Medical Director,
Cairo, Pennsylvania.
Dear Doctor:—

Mr. John Brown, proprietor of the Swamp Root Hotel in Blank borough, which is located in your district, sent us a number of health certificates for himself, his daughter (who assists in the dining room) and a number of waitresses in compliance with the Restaurant Hygiene Law.

Among these health certificates, we find one in the name of Sarah Street, while this gives her a clean bill of health, we have been advised by a local Social Worker that this girl is under suspicion as being syphilitic. We therefore want you to get in touch with Dr. John Black, who signed the certificate, and ask him to make a more rigid examination of this girl and send us a report of his examination.

Thanking you in advance, I beg to remain

Yours very truly,

J. M. Delaney,
Chief, Restaurant Hygiene Section.

Mr. J. M. Delaney,
Chief, Restaurant Hygiene Section,
Pennsylvania Department of Health,
Harrisburg, Pennsylvania.

Dear Mr. Delaney:—

In reply to your letter of the second, which is in regard to the Sarah Street case, beg to say I called on Dr. Black and explained your request to him, telling him of the information received by you. He immediately got in touch with this party and found that upon a more rigid examination your suspicions were well-founded, and he requests that the original certificate be destroyed or returned to him.

I pointed out to Mr. John Brown, proprietor of the Swamp Root Hotel, that according to law it was his duty to discharge this girl from his services, which he immediately did.

I suggested that Miss Street report at once for treatment to the State G. U. Clinic which is located at the Hospital in her home town. I have since received word that she has reported and is under treatment. I will keep in touch with the case and advise you later.

Yours truly,

John J. Jones, M. D.

DISTRICT BOARD OF HEALTH ASSOCIATIONS

There will be a meeting of District Association Boards of Health No. 9, composed of the counties of Lackawanna, Luzerne, Pike, Susquehanna, Sullivan, Wayne and Wyoming, at Wilkes-Barre on May 9. The following program will be rendered:

Meeting called to order at 10 A. M.

Morning Session.

Address of Welcome.	Mayor of Wilkes-Barre,	5 Min.
Response	Judge Geo. Maxey, or Carbondale Mayor,	" "
Address	Dr. Chas. H. Miner	" "

Discussion:

How we can Supervise our Milk Supply Economically and Efficiently.

Mr. Ralph Irwin,	Department of Health.	5 Min.
F. S. Davis, V. M. D.	Nanticoke, Pa.	" "
Charles A. Zeller, M. D.	Dalton, Pa.	" "
Emory Lutes, V. M. D.	Wilkes-Barre, Pa.	" "

Questions from floor,

The Financial Needs of Health Boards.

L. H. Raymond, M. D.	Clark Summit, Pa.
S. D. Davis, M. D.	Jermyn, Pa.

P. B. Dempsey, Olyphant, Pa.
J. MacNulty Throop, Pa.

Each speaker to be allowed five minutes, and five minutes allowed for questions and comment from floor.

Cairo Board of Health.

Adjournment for lunch.

Luncheon Address William C. Miller, M. D., Department of Health.

Address J. T. Butz, M. D., County Medical Director,
Lehigh County.

Afternoon Session.

Business of Association, appointment of Committees, reports, etc.
Thirty Minutes.

Address 5 min. Rev. Archibald Herries, D. D., Tunk-
hannock, Pa.

Address: Law Enforcement Jas. N. Lightner, Legal Advisor, Penna.
Department of Health.

The Schools and Our Health Program,
W. F. Davison, M. D. Kingston, Pa.
Miss Louise McHale Olyphant, Pa.
Miss Jessie Cunningham, R. N. Wilkes-Barre, Pa.
Charles W. Sheldon, M. D.

Five minutes for all speakers, five minutes for discussion and questions from floor.

The Insanitary Privy, a Menace to Health Mr. Ivan M. Glace, De-
partment of Health.

Duties of a Health Officer. Miss Mary Pollen, Wyo-
ming, Pa. 5 min.

Restaurant Hygiene and Its Relation to Disease Control.

R. E. Buckley, M. D. Hazleton, Pa.

F. R. Wheelock, M. D. Scranton, Pa.

Thomas Hopkins, Pittston, Pa.

Five minutes allowed each speaker, and five minutes for discussion and questions from floor.

Diphtheria Control.

J. Bruce McCreary, M. D. Department of Health.

J. C. Reifsnyder, M. D. Scranton, Pa.

S. S. Watson, M. D. Moosic, Pa.

E. E. Edwards, M. D. Taylor, Pa.

Five minutes allowed each speaker, and five minutes for discussion and questions from floor.



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"Acceptance for mailing at special rate of postage provided for in section 1103, Act of October 3, 1917, authorized April 6, 1923."

NOW

*"If you have hard work to do,
Do it now.
Today the skies are clear and blue,
Tomorrow clouds may come in view,
Yesterday is not for you;
Do it now."*

Anon.

The Listening Post

A MONTHLY JOURNAL OF PUBLIC HEALTH

EDITOR
William C. Miller, M. D.

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Harrisburg, Pennsylvania—May, 1923

No. 6

DO IT NOW

An Act of Assembly of Pennsylvania provides that the health affairs of boroughs shall be administered by Boards of Health, appointed locally, except in instances of Boards of Health being removed for cause, by the Commissioner of Health, when the enforcement of the health laws shall be under the direction of a Health Officer, appointed by the Commissioner. The municipalities of the State, with the exception of a few of the smaller ones, maintain Boards of Health in accordance with the law.

Health law enforcement, well conducted clinics and health centers, clean streets, good water, approved sewage disposal, garbage collection, protected milk supply, absence of flies and mosquitoes, in a large number of towns bear testimony to the efficiency of their local Boards. In other instances, unhappily too many, careless and slipshod methods of health administration reflect the indifference of apathetic Health Boards.

Unfortunately the efforts of a law abiding community are often handicapped by their less careful neighbors. For instance, the town of *A* may have some cases of communicable disease, but because it observes the laws of quarantine not only its own citizens but the inhabitants of other places are protected against its spread, while the town of *B* under similar circumstances, on account of their lax administration of quarantine, not only endangers its own citizens but becomes a menace to other places, where the people of *B* are accustomed to go.

It was, as a step toward correcting these and kindred conditions, that the District Board of Health Associations were organized but that is beside the point. There is no apparent reason why the Health Boards of Pennsylvania should not be like the Deacon's "one hoss Shay", one part as good as the rest, and there will never be a better time to start than right now.

Rome was not built in a day, neither can it be expected that a community which has been following the line of least resistance, so far as health matters are concerned, for a number of years, will be able to completely change its front over night, but it can at least make a beginning. If proper effort be put forth, time will do the rest.

In order that the careless community may become on a par with its more vigilant neighbor, it will be necessary not only to enforce the

health laws and regulations of the State Department of Health, but to encourage its inhabitants to take advantage of the additional means of protection against disease which have been supplied by medical research.

Small pox has been made negligible in Pennsylvania because of the protection afforded by the enforced vaccination of school children. Typhoid Fever has changed its place in the list from that of a common disease to a rare one because of State supervision of the public waters. Education has materially reduced the annual toll of tuberculosis. Now there is an opportunity to eliminate that terror of childhood, DIPHTHERIA. Children may be rendered permanently immune to diphtheria by the injection of three small doses, one week apart, of a substance called toxin antitoxin. In another place in this issue is described the method pursued in Cambria County's campaign against diphtheria, inaugurated by Dr. W. E. Matthews of Johnstown. Such a campaign could and should be conducted in every community in Pennsylvania. Don't put this off until next week, or next month, or next year. **DO IT NOW**—Remember you are working to save lives—**DO IT NOW**.

As it is necessary to obtain parental consent before the administration of toxin antitoxin, the first step of such a campaign must obviously be a canvass of the town to obtain the necessary signatures. A form something like the following may be used:—

I hereby request that
 a pupil in Public School be given the
 Parochial
 benefit of protection against DIPHTHERIA, by the in-
 jection of Toxin Antitoxin Mixture, without cost to me.
 Parent or Guardian
 Address

The State Department of Health Nurses are everywhere lending assistance in this campaign. If a public health nurse be not available to make the canvass, the town may be divided into sections and a committee of citizens assigned to the work.

DIPHTHERIA PREVENTION IN CAMBRIA COUNTY

The campaign against diphtheria in Cambria County was begun on May 18, 1922. At this time a public dinner was held by the Cambria County Medical Society in the Fort Stanwix Hotel, Johnstown, Pennsylvania. The purpose of this meeting was to bring before the people of Cambria County the value of the Schick Test and the importance of immunizing all children against diphtheria. All civic organizations of the county were represented, as well as school boards, boards of health, health officers, nurses, etc., Dr. Edward Martin, Dr. J. Bruce McCreary and Dr. W. G. Turnbull were present from the State Health Department. This was the first of a series of events to arouse public sentiment.

During the summer the subject of diphtheria prevention was kept before the people by newspaper articles, talks to Mothers' Clubs, Parent-Teacher Associations and other civic bodies. The physicians of the county talked to their patients about it and urged their co-operation and support. By the time the schools were opened in the fall, the people of Cambria County had been well informed concerning the Schick Test and toxin antitoxin immunization and were in such a state of mind that we were able to go ahead with the program as mapped out.

With the opening of the schools in September, the real work began. Franklin Borough was chosen as the ideal borough to begin with, as they employed a school nurse and the borough was small and easy to control. A public meeting was held. A committee from the Society appeared before the school board and received their endorsement and support. Permit cards were given to the children to take home for the consent of the parents or guardian. No child was immunized where the consent of parents or guardian was not obtained. The school nurse made a house to house canvass to explain the process to the parents and help secure their consent. About 75% of the children were signed up. The next step was that of immunization and on September 25, 1923, Dr. W. E. Matthews and Dr. Cartin, assisted by the nurses from the Red Cross, began to immunize over 400 children. The Health Department furnished the toxin antitoxin. The borough was completed in three weeks.

The work then moved rapidly, borough after borough requesting the Society to send physicians to do this work. The subject of toxin antitoxin became common gossip. Co-operation was manifested everywhere. The physicians of the Society all gave their time and efforts to the work and made our excellent results possible. About 7,000 children were immunized before the Christmas holidays. The same procedure was carried out in every borough.

The following boroughs, outside of the city of Johnstown, have received the immunization:—Franklin, Conemangh, Vintondale, Beaverdale, South Fork, Summerhill, Ebrenfeld, Wilmore, Lilly, Portage, Cresson, Gallitzin, Nanty-Glo, Barnesboro, Dale, Westmont, Ferndale, Southmont, Spangler, Ebensburg, Lloydell, Portage township and the Christian Home in Johnstown. The number of children immunized in the different places range from 75 to 1600, and the percentage 45 to 96.

The honors so far go to Vintondale. 96% of all the children in that town have been immunized against diphtheria. This record is due to the work of Dr. McFarlane, who personally went out among his people and explained to them the value of diphtheria immunization and secured the signing of the permits. From unofficial counts, about 15,000 children have been immunized in Cambria County.

The work is still going ahead and other boroughs and townships are being brought into line. It will be continued until all the children in the county, whose parents are willing, shall have been immunized. The members of the medical society are also making efforts to immunize the child of preschool age, when the period of mortality from diphtheria is at its highest. So far as we know, no child who has been immunized for more than three months, has had diphtheria, although we have had several cases where the child has contracted the disease in two or three weeks following the injections.

The campaign has been very successful and much of this success has been due to the support given by every member of the Cambria County Medical Society. Much work has been done and much more remains to be done before our task is completed.

STATE CLINIC No. 1

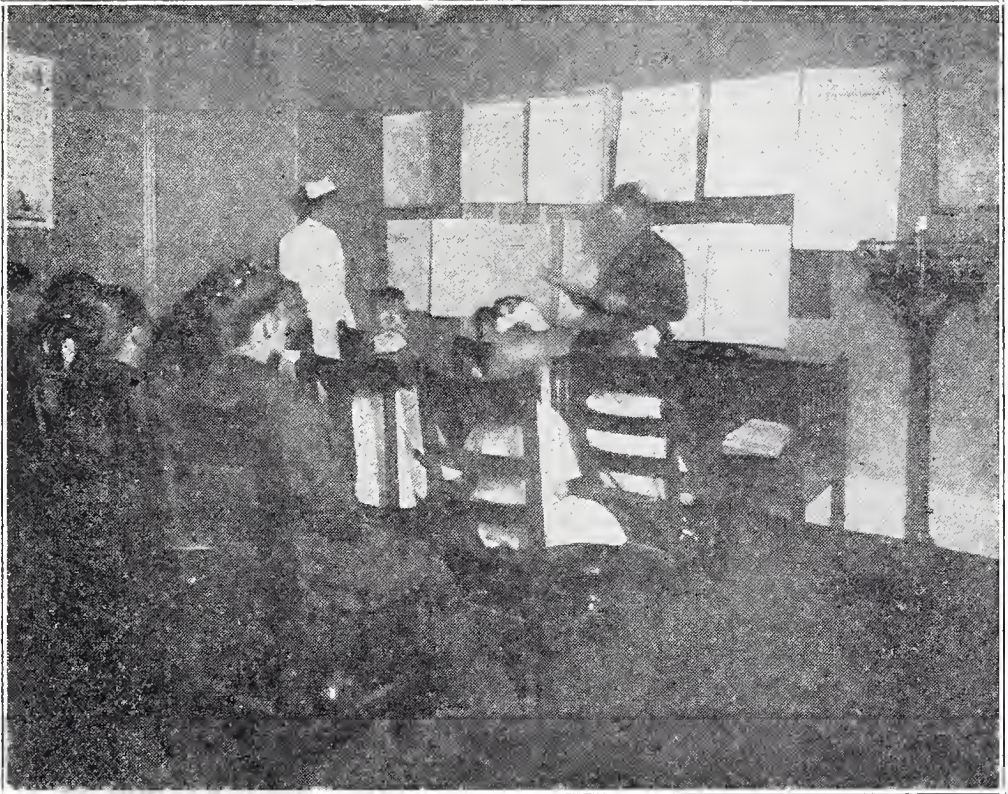
Some seventeen years ago, the Wyoming Valley Tuberculosis Society, an organization of public spirited citizens of the anthracite region of Pennsylvania, decided to open a free clinic for the tuberculous poor at Wilkes-Barre. To Dr. Charles H. Miner, now Commissioner of Health of Pennsylvania, was delegated the responsibility of its organization and administration.

A corps of nurses was employed, not only to assist in the examination and instruction of patients at the Clinic, but to make personal visits to the homes of patients and instruct them in the proper mode of living, which included lessons in diet, ventilation, cleanliness, sleeping arrangements and the necessary care which must be observed by tuberculous patients to protect other members of the family from the disease.

When the Pennsylvania Department of Health was created, the attention of Dr. Samuel G. Dixon, the first Commissioner of Health, was attracted to this now completely organized and smoothly running Clinic. So well was he pleased with the plan of its organization that he made overtures to the Society, to the effect that the Wilkes-Barre Clinic be taken over by the Commonwealth as one of a proposed state wide system of similarly operated Clinics.

The Society generously relinquished the work in the interest of the great common good, and the Wilkes-Barre Clinic became a part of the State Department of Health and was known, as at present, as Clinic No. 1.

At first the entire time of the Clinic was taken up with the care of tuberculous patients, but with passing years and increasing public needs, the scope was widened, so that now in addition to its original program, the Clinic has hours for child health, genito urinary, nose and throat, prenatal and mental health, the latter under the auspices of the Public Welfare Department. There is also a nutrition class which has been productive of noteworthy results.



**NUTRITION CLASS
(WILKES-BARRE STATE CLINIC)**

Dr. Sara D. Wychoff, who has supervision of the Nutrition Clinic, has placed nutrition classes in a number of the schools of Luzerne County and, in consequence, 9,000 children are being served milk daily.

The social service section of the Clinic secures relief for indigent families through the various avenues of charity and helps the unemployed to obtain work.

The county co-operating with the Genito Urinary Clinic, furnishes a detention ward for venereal cases in the county prison. During the past year the average of girls in this ward was fourteen. The county pays the nurse in attendance. Girls are held in the detention ward, until they are cured or the disease is rendered non-transmissible. This is usually 30 or 40 days.

Every effort is made to rehabilitate these unfortunates. None are released until some definite program is outlined, by which they may obtain a legitimate living. Such as are mentally unfit are examined by the mental health physician, Dr. H. V. Pike of Danville, and are transferred to institutions suitable for their care.



**SCHOOL OF MIDWIVES
(WILKES-BARRE STATE CLINIC)**

Another feature of the Clinic is the organization of a class in midwifery under the tuition of Dr. Kocyan. Luzerne County has a large foreign population and, in accord with their native custom, midwives are extensively employed. The improvement in their methods, as the result of the special instruction, is markedly evident.

An idea as to the popularity of the Child Health Clinic, under Dr. Wychoff, may be obtained from the accompanying cut.



**STATE CHILD HEALTH CLINIC
(WILKES-BARRE STATE CLINIC)**

In this Clinic none except well babies are received. Mothers are instructed concerning their care, diet and clothing. Cases requiring special treatment are referred to family physicians.

Dr. Louisa Blair, in charge of the Nose and Throat Clinic, and Dr. P. P. Mayoek, in charge of the Genito Urinary Clinic, co-operate at all times with other social service activities of the city. A detailed account of the Venereal Disease Prevention Clinic will appear later. All public health nurses of Wilkes-Barre meet weekly at the clinic headquarters to co-ordinate their work and prevent over lapping.

The tuberculosis clinics at Hazleton, Nanticoke and Pittston and the well baby clinics at Hazleton, Pittston, Dupont, Duryea, Mocanqua, Lee and Dallas are offshoots of the original Clinic at Wilkes-Barre.

WHAT ONE STATE NURSE DID



"Do everything you are paid to do and then some," this is the rule of life of Miss Alice O'Halloran and its extension to her corps of nurses has made them a power for public health in Pennsylvania which is beyond estimate.

A notable example of how these nurses work comes to us in the report of a recent Health Educational Campaign in Western Pennsylvania.

Miss Anna M. King of Monessen, Clinic 86, staged a motion picture health week for Belle Vernon, Charleroi, Monessen and Fayette City, four populous towns in the thickly settled bituminous region of Pennsylvania.

Early in February Miss King asked for the use of the Department of Health films on tuberculosis, small pox, house fly, child welfare, teeth, cancer, rat menace and the men's and women's lecture films on venereal disease, for the entire week beginning March 12th.

To fill such an order would almost exhaust the Department Library, but Miss King was so enthusiastic in regard to her plans and so insistent upon having the films, that her request was complied with, and now comes the report:

There are six motion picture theatres in the four towns with seating room for 4,000 in the aggregate. They each give three shows a day and are usually filled to capacity at each presentation. Miss King arranged with the managers of the different theatres to run two reels of health pictures with each show. This they were enabled to do through a system of exchange devised and superintended by Miss King. Thus during the week, educational health pictures were shown daily to about 12,000 people, the majority of whom, if left to follow their own inclinations, would not have walked across the street to see a health picture.

Here is a letter—for obvious reasons we withhold the signature—

Fayette City,
March 26

State Department of Health.

Dear Sir:—

I saw your picture on cancer last week. My Mother has had a sore on her lip for a long time. I took her to the hospital yesterday. The doctor said it was not too late. Thank you.

Mrs.

And another:

Dear Health Dept:

The picture I saw at the Coyle last week sent me to the doctor. He said I have syphilis but I can be cured. I wont sign my name, but I am grateful.

Yours,

And there are others. The pictures on venereal diseases were shown at special hours to segregated audiences. The theatre managers donated the theatres and the physicians of the several towns paid the overhead expenses. Thanks are due to the following theatre managers for their co-operation:—

Mr. Mell, Fayette City
Mr. Bello, Belle Vernon
Mr. Rosenbloom, Charleroi

Mr. Barnhart, Charleroi
Mr. McShaffery, Monessen
Mr. Lotus, Monessen



The Health Gnome Says -

*Some towns are poor and some have wealth,
Some have sickness, some have health,
Some are fast and some are slow,
Some don't know which way to go,
But every town is in reverse
Unless it have a public nurse.*

THE YARDSTICK OF LIFE

By Wilmer R. Batt, M. D.,

State Registrar, Bureau of Vital Statistics.

Our daily news columns tell us from time to time of the rise and fall in the prevailing market prices on foods and other essential commodities; of crop conditions, of the quality, of the surplus; of the weather and other factors which affect production.

Life and health are surely essential commodities. They are purchasable to a very great extent just the same as wheat and corn are purchasable. The purchase may be by individuals or commodities, and quantity and quality are capable of expression. We may buy wheat by the bushel, butter by the pound, or cloth by the yard,—the relative price we pay depending upon quality. Individually we buy life by the calendar, the length of life expressed in years, months and days. Collectively we express it by a mortality rate, and health by a sickness or morbidity rate.

Some time last year Pennsylvania's population passed the nine million mark. This means that one-twelfth of all the people of the United States live within its borders. This makes the vital statistics of Pennsylvania of particular significance.

Deaths in Pennsylvania from all causes during the calendar year 1922 were 110,700 giving a death rate of 12.4 per 1,000 of population. This was almost identical with the rate of 12.3 for 1921, which was the lowest in the history of the State, and compares with 15 as the average rate for the previous fifteen years.

With the single exception of Measles, every important communicable disease showed a decline both in incidence and in mortality as compared with the previous year.

Deaths from Typhoid fever numbered 423, giving a death rate of 4.7 per 100,000 of population as compared with 7.3 for 1921. In 1906,—3,917 persons died from this disease, and the average number of deaths for the fifteen years previous to 1922 was 1553 with an average mortality rate of 19.4.

From Scarlet fever there were in 1922,—354 deaths with a death rate of 3.9 per 100,000 of population. The average number of deaths for the fifteen years previous was 632, and the average death rate was 8.0.

Diphtheria deaths numbered 1,501 with a death rate of 16.7 as compared with an average of 2,122 deaths for the fifteen years previous, with an average death rate of 24.6. The percentage of deaths from diphtheria in relation to the total number of cases was 9. This is a marked reduction in case rate fatality as in previous years the rate has varied from 10 to 17.

Deaths from Measles numbered 699 with a mortality rate of 7.8, as compared with 442 deaths and a mortality rate of 5.0 for 1921. The average number of deaths for the fifteen years previous was 937, the average rate being 11.8.

Tuberculosis in all forms caused 7,940 deaths with a death rate of 88.4 per 100,000 of population, as compared with an average of 10,400 deaths and a death rate of 129.3 for the previous fifteen years.

The Infant mortality rate was 85 per 1,000 births. This is the lowest rate ever recorded in the history of the State. The average rate for fifteen years was 121.

The Birth rate for 1922 was the lowest recorded for a period of fifteen years, being 23.8 per 1,000 as compared with 25.9 in 1921. This represents a decline of 15,000 in the aggregate number of births.

The decline in the birth rate is a reflection of changing social and economic conditions. The comparatively high rate of 1921 following the low rates of the three preceding years was the natural result of the return of married soldiers to family life and the consummation of marriages postponed during the war period. The marriage rate of 1920 was the highest in ten years. The restriction of immigration during and following the European War has also decreased the proportion of foreign born women who contributed heavily to the birth rate, while the earlier female immigrants are gradually passing out of the active child-bearing ages.

The decline in the birth rate for 1922 was not peculiar to Pennsylvania—it was a condition common to the country at large. The decline in the death rate has, however, maintained the average yearly natural increase of population at something more than 100,000.

RABIES

By Roy G. Miller, Chief,

Div. Supplies and Biological Products.

Rabies at the present time is common in the Southern States, and in Pennsylvania it is more prevalent than is generally believed.

Recently a little girl living in West Conshohocken was bitten by a vicious dog.

The parents of the child, suspecting the animal to be mad, immediately sent for a physician who cauterized the wounds, and ordered the dog placed in quarantine.

Two days later, when the dog showed symptoms of rabies, Pasteur Treatment for the child was promptly supplied by the Pennsylvania Department of Health.

Persons bitten by animals suspected of rabies should at once secure the service of a competent physician.

The invariable rule is to use every effort to get the virus out of the wound to prevent absorption and to cauterize at once.

Early and thorough cauterization retards the development of the disease, and thus renders the Pasteur Treatment more certain of effect.

The Pasteur Treatment is a preventive treatment. There is no known cure for rabies.

The treatment should begin as early as possible after the infliction of the bite or wound.

The average period of incubation (the time which passes between the inoculation with the virus and the appearance of the symptoms) varies, depending on the site and severity of the wound. It is usually from 21 to 40 days and is generally shorter in children than in older persons. The reason for this is, that children, on account of their lesser height, when attacked by dogs are more apt to be bitten on the head or face which contain a more abundant nerve supply than other exposed parts of the body.

WHAT TO DO WITH THE ANIMAL

An animal suspected of rabies should not be killed, but kept securely confined. If it has the disease, it will soon exhibit characteristic symptoms and die within a few days.

If the animal has been killed, the head, with the neck attached if possible, should be sent to a laboratory equipped for making examinations of the kind. The Pennsylvania Department of Agriculture, Bureau of Animal Industry, Harrisburg, Pennsylvania, has such facilities.

CAUSES

The most frequent source of rabies is the dog. Its saliva is virulent one or two days before the animal shows symptoms of illness.

The disease may be transmitted by deposits of saliva, containing the virus, on raw surfaces as by licking.

PREVENTIVE TREATMENT

The spinal cord of a rabbit, inoculated with fixed virus, is cut into small segments and the pieces dried to various degrees. The pieces dried longest contain the weakest organisms. The weakest segments are ground into a fine emulsion and injected into the body of the patient. This stimulates the formation of antibodies or elements antagonistic to the disease. The treatment is continued by giving stronger doses each time until the full strength has been attained.

For the convenience of hospitals and practicing physicians, the State Department of Health carries in stock at all times, the Pasteur Treatment for immediate use, and will supply it at State contract prices.

The complete treatment includes the administration of from 21 to 25 injections, covering a period of 18 to 22 days.

The variation in the treatment depends upon the location and severity of the bite. Each small vial, containing the undiluted emulsion, is labeled showing the number of the dose it contains. It is very important that the doses be given in the order in which they are numbered, beginning with Dose 1 and continuing in regular sequence to the end of the treatment.

These doses will be sent in proper sequence each day, by special delivery mail, until the entire course of treatment has been covered.

WATER DANGER

By W. L. Stevenson, Chief,
Engineering Division.

In 1906 the typhoid death rate in Pennsylvania was 54.8 per 100,000 and in 1922, it was 4.3.

This 92% reduction means that 50,000 lives have been saved during the 17 years that the Commissioner of Health has had jurisdiction over the quality of public water supplies, sewerage and the conditions under which sewage may be discharged into the waters of the State.

Loathsome as the thought is, the fact remains that every case of typhoid fever is caused by the patient having taken into his mouth the germs of typhoid fever, which were discharged with feces or urine from the body of another person.

Among the many ways in which this comes about may be mentioned the exposure of excreta in improperly constructed or maintained privies, whereby flies are able to convey the filth and the germs to food stuffs and also unpurified or inadequately purified water supplies, obtained from sources which have received sewage and from springs and wells contaminated by human excreta, either by surface or underground pollution.

It was to control these matters that the "Purity of Waters Act" was approved April 22nd, 1905, which gave to the Commissioner of Health jurisdiction over the quality of the public water supplies and sewerage, and the conditions under which sewage may be discharged into the waters of the State.

At present 650 waterworks deliver water supplies to about 6,000,000 people in the State, and 88% of these waterworks use surface streams as their source of supply.

Some communities are so situated that they can obtain their water from almost uninhabited watersheds, where the danger of the contamination of the surface water is reduced to a minimum.

But many towns must of necessity obtain their water supply from surface streams draining populated districts, and hence to produce a safe and wholesome supply, the water of the stream must be filtered and, as a further safeguard, sterilized with a germicide.

Therefore, the Commissioner of Health must determine in each particular instance, whether the means proposed to purify the surface water are adequate to produce a safe water, and thereafter to require that the waterworks are so operated as to accomplish the required results.

Thus it is seen that the streams of Pennsylvania furnish the majority of its citizens with drinking water, and the health of these people is safeguarded by the State Department of Health.

The elimination of the insanitary privy and the over-flowing cess-pool, which constitute a serious menace to the public health through the exposure of human excreta in proximity to dwellings, is best brought about by the installation of a sewer system.

Sewer systems are designed to carry away from the buildings of a town the spent water supply made dirty by use in dwellings and factories, and hence containing the excreta discharges of the people.

The prompt underground removal of the sewage of a town by means of sewers, constitutes a safeguard to the health of the citizens, but if the sewage is thereafter improperly disposed of, it may in turn create an equally great menace through stream pollution.

Such stream pollution is caused by three characteristics of sewage, to wit: The undissolved solids which settle in the stream and form deposits or float on the surface as scum, also a large part of the solid matter in sewage is organic in origin and subject to decomposition, hence the offensive odors which are emitted from sewage laden water courses.

These two conditions create a nuisance, interfere with the comfort of nearby dwellers, and prevent the normal use of such streams for domestic or industrial purposes.

The menace to health from such sewage polluted streams is caused by the presence therein of disease producing germs contained in the sewage from human excreta.

The remedy is the proper treatment of the sewage before its discharge; such treatment may consist in the separation of the solids from the liquid portion, and the removal or the modification of the decomposable constituents and in disinfection.

The separation of the solids from the liquids may be accomplished by passing the sewage very slowly through sedimentation tanks, wherein the solids are deposited on the bottom of the tank as a dark colored watery mass called sludge, while the liquid portion flows from the outlet end of the tank.

The modification of the decomposable constituents may be secured by spraying the liquid effluent of the sedimentation tank over beds of broken stone. The surface of the stones becomes covered with a layer of bacteria which, in the presence of oxygen from the air, have the power of converting the decomposable organic substances in the sewage to stable mineral compounds which do not putrefy.

The disinfection of the germs in the effluent of a sedimentation tank, or of such an oxidizing process, may be done by the addition of a solution of chlorinated lime.

The results accomplished by these artificial processes of sewage treatment may also be obtained in natural bodies of water.

For example, consider the discharge of a small amount of sewage into a relatively large stream, having a good velocity of flow and not used as a source of water supply, or for bathing or ice harvesting.

The solids in the sewage are carried forward by the velocity of the stream and ultimately so dispersed as to be negligible.

The decomposable constituents are changed to a harmless condition by the bacteria and oxygen present in all natural waters, and the pathogenic bacteria die, because they are in an environment unfavorable to their normal conditions in the human body.

These processes collectively are called sewage disposal by dilution.

It can, therefore, be seen that the degree to which sewage need be artificially treated before discharge, in order to maintain the streams in a cleanly condition and not to menace the public health, is determined by the use and condition of the receiving body of water.

In a densely populated and industrial state like Pennsylvania, it is futile to ever expect to restore the streams to their pristine purity.

Even to maintain them in a cleanly condition and such as are used as sources of public water supplies, in a fit condition, entails the expenditure in the aggregate of large sums of money for construction and annual charges.

It is the policy of the Engineering Division to give due heed to these economic problems in determining the requirements imposed in sewerage permits, and thus to secure the maximum protection to the waters of the State and to the public health, at the least expenditure of funds for both purification of water and treatment of sewage.

For example, laboratory investigations and field observations have shown that the acid mine drainage of coal mines is a natural germicide to the sewage bacteria, and that where there is a sufficient flow in such acid streams that nuisance conditions do not develop—therefore, where these conditions obtain, permission has been granted for the discharge of untreated sewage at a considerable saving of municipal funds, and no apparent detriment to the already injured water of the stream.



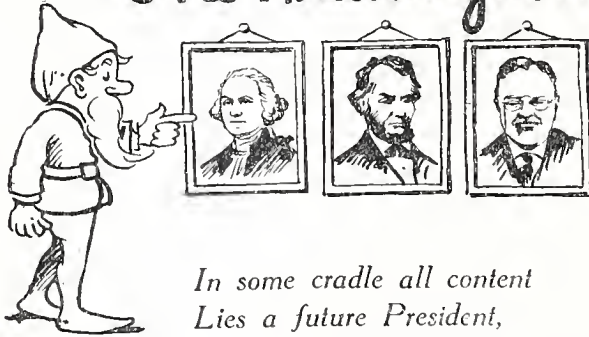
The Listening Post



Issued Monthly
by The Division of Public Health Education
Penna. Department of Health



The Health Gnome Says



*In some cradle all content
Lies a future President,
Rocks and sleeps in calm repose,
But just which cradle no one knows.
Watch your own with every care---
Perhaps a President is there.*

The Listening Post

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"AS THE TWIG IS BENT"

That "the training of a child should begin with its Grandparents" has formed the text for many a platform lecture. It sounds well and, like many other trite expressions, it is usually accepted as an axiomatic truth from which there is no appeal.

The average Grandparent of today is 50 years old or thereabouts, but because the Fathers and Mothers of 1873 peradventure may not have been overly well informed about many of the things now considered indispensable to the proper up-bringing of the baby, we need not regard as hopeless the making of a strong and vigorous youngster out of even an ill conditioned infant, for regardless of the opening statement and the handicap of untrained Grandparents of the vintage of '73, it is altogether possible with proper management to get quite satisfactory results, so far as growth and health are concerned, for the babies of 1923.

As to mentality and traits of character, we would probably have to go back very much farther than Grandparents and would find ourselves dealing in eugenics—which is very deep water. So let us not bother ourselves about peoples and times which have gone, but give our whole attention to the present needs of taking care of the babies as given to us and making the best of the situation as we find it.

There can be no doubt that the diet of the expectant mother exercises an important factor in the baby's start of life; this should be regulated in accordance with advice from a physician, so that it contain a sufficiency of the elements which go to make up nerve and muscle tissues and the bony structure including tooth buds.

At birth and thereafter, the doctor is the judge and advisor.

If a doctor cannot be had, the baby should be taken to a well baby clinic.

Start early to train the baby in habits of regularity—regular meals—regular sleep—regular bowel movements and later regular study—regular work—regular play and you will have the "makins" of a regular man or woman, who will occupy a place in the world.

It may perhaps be gratifying to be able to say: "My ancestors came over in the Mayflower," but it is infinitely more constructive, if twenty years hence you can say: "By the careful management of my baby, I have given the world a man."

TO THE MEN OF AMERICA

By Miss Rose Trumbull

You talk of your breed of cattle,
 And plan for a higher strain,
 You double the food of the pasture,
 You heap up the measure of grain;
 You draw on the wits of the nation,
 To better the barn and the pen;
 But what are you doing, my brothers
 To better the breed of men?

You boast of your Morgans and Herefords,
 Of the worth of a calf or a colt,
 And scoff at the scrub and the mongrel,
 As worthy a fool or a dolt;
 You mention the points of a roadster,
 With many a "wherefore" and "when,"
 But, ah, are you conning, my brothers
 The worth of the children of men?

You talk of your roan-colored filly,
 Your heifer so shapely and sleek,
 No place shall be filled in your stanchions
 By stock that's unworthy or weak,
 But what of the stock of your household?
 Have they wandered beyond their ken?
 Oh, what is revealed in the round-up
 That brands the daughters of men?

And what of your boy? Have you measured
 His needs for a growing year?
 Does your mark as his sire, in his features,
 Mean less than your brand on a steer
 Thoroughbred—that is your watchward,
 For stable and pasture and pen;
 But what is your word for the homestead?
 Answer, you breeders of men!

—The Gideon.

HOW TO CARE FOR BABIES

By Dr. Mary Riggs Noble, Chief and Dr. J. D. Donnelly, Associate
Chief, Div. of Child Health, Pennsylvania Department
of Health.

PRENATAL CARE

"A comfortable pregnancy, a safe labor and an uneventful recovery" is every mother's right with every child she brings into the world.

Motherhood is natural and normal. At the first sign of pregnancy a physician should be consulted or a visit made to a prenatal clinic for a complete physical examination and general advice. There are simple things to understand that every mother should know. These she may learn from the doctor, the prenatal clinic or from the nurse.

Pelvic measurements should be made early in the pregnancy to determine whether abnormalities exist which will give rise to difficulties later on. The internal obstetrical examination should come after the seventh month. If the advice of the doctor or nurse is followed there is no reason to worry over pregnancy.

DIET.

The ordinary diet that agrees need not be changed during pregnancy. Things definitely known to cause indigestion and over-eating should be avoided. Several glasses of water should be taken during the day. Plenty of milk should be drunk. Milk soups, eggs and brown beans should be eaten sparingly. Tea and coffee should be taken not more than once a day. Plenty of fruit and green vegetables, both cooked and raw, should be eaten.

SLEEP.

At least 8 hours every night with windows open.

EXERCISE.

Regular housework is desirable exercise with frequent short rests, lying down for perhaps five minutes at a time. A daily walk out of doors is good. Plenty of fresh air in the house and sleeping with wide open windows are desirable; windows may be kept open while the housework is going on. Heavy work or any efforts that seem to strain should be avoided.

BATHING.

An all-over sponge every day with warm water should be the habit. It is not considered desirable to take a tub bath after the seventh month.

CLOTHING.

The clothing should be light and comfortable with no constricting garments. Stockings should be suspended from corsets or proper suspenders. Round garters are undesirable.

CONSTIPATION.

A glass of hot water before breakfast or a cup of coffee with no cream and sugar may prove to be sufficiently laxative. Hot milk may be taken with breakfast. There should be a regular time for the visit to the toilet, preferably directly after breakfast daily. Coarse breads, stewed fruits and the drinking of 6 or 8 glasses of water during the day are aids to regularity. A simple formula for a laxative is to cook 5 cents worth of senna leaves with a pound of prunes and eat four to six prunes every day.

IMPORTANT.

Danger signals which should be reported to the doctor, or nurse, at once:-

Persistent headache
Spots before the eyes
Swelling of the face and hands
Constipation
Scanty urine
Abdominal cramps
Pains before the time the baby is expected
Bleeding—no matter how little.

Baby clothes should be ready, and all the mother's special needs provided for, by the eighth month.

EVERY EXPECTANT MOTHER SHOULD HAVE:—

1. Complete examination, including pelvic measurements early in pregnancy.
2. Her urine examined regularly—every 2 weeks 'till 8th month, then every week.
3. Her blood pressure taken regularly.
4. A Wassermann blood test if possible.

TEETH.

Keep the teeth preserved and clean by brushing with tooth paste, or soap and warm water. Rinse the mouth with weak soda water after meals. Rinse mouth with milk of magnesia at night. Have prompt dental care for cavities in teeth, and for sore gums.

BATHING THE BABY

The baby should be bathed every day: for this there should be provided a small tub, or a large basin, kept scrupulously clean, and used for nothing else. The room in which the bath is given should be warm (70°) and not drafty. The temperature of the water should not be more than 100°—better 95°. A bath thermometer is not costly and makes for exactness. To test the water without a thermometer,—if it feels comfortably warm to the nurse's elbow, it is right. As soon as the cord has dropped, the baby is immersed in its bath supported on the left arm of the nurse. It should never be left alone in the tub. Three or four minutes is long enough for the bath to last. A soft wash-cloth and castile soap should be used. The baby, on being lifted out, is placed on the lap-pad (made as an apron from a piece of a soft, old blanket), and dried quickly with a soft towel. The bath should come preferably in the morning just before feeding time, so that, after it, the baby will be ready for its food and a long sleep. Shield him from drafts after a warm bath, as he is more susceptible to cold then. Never fear that bathing will cause cold. Colds do not come that way, unless he is chilled, and there is no reason for letting him be chilled.

The bath should be made less and less warm, as the baby grows older, growing tepid, then cool, and as he begins to walk, still cooler. A cold sponge is a good life habit for every one. It makes for health, strength, and beauty.

BIRTH REGISTRATION.

Out of the 48 states of the United States only 25 have birth registration. So important is this matter of getting every birth registered officially, one of the great national associations considers it quite worth while to go out in a campaign of agitation in the states, which as yet are not in the registration area.

Every baby birth should be registered for the following reasons:—

- To prove his right to go to school.
- To prove his right to work.
- To prove his right to marry.
- To prove his right to enter the army or navy.
- To prove his right to inheritance.
- To prove his right to vote.
- To prove his right to passport.
- To prove his right to definite insurance rates.
- To prove his right to employment and protection.
- To prove the mother's right to a pension.

REGISTER YOUR CHILD'S BIRTH NOW.

- "We've registered our incomes.
- Just as the law demands;
- We've registered our autos.

Our homes and our lands;
 We've registered our motor boats,
 At Uncle Samuel's call—
 Then why not register the most
 Important thing of all?
 We've registered our incomes,
 Our horses and our mules;
 We've listed all our property
 According to the rules;
 We've counted all our country's wealth,
 Our cattle, wheat and corn—
 But no one knows how many
 Future citizens are born.
 Now since we've inventoried
 Most everything on earth,
 Why don't we take some notice
 Of a human being's birth?
 And while we count each side of beef
 And every ton of coal,
 Why don't we count that priceless thing,
 A new-born human soul?"

FEEDING.

The food necessary to supply everything that is needed for the baby's growth and development is best created for him in the breast of his mother. It is the natural food of babies, the **ONLY** one made just for them. For the baby, breast feeding is the best form of life insurance.

Have the baby nurse regularly, every three or four hours—no oftener. After the fourth month the night feeding may be omitted. It is well to alternate the breasts at each feeding as when both breasts are used at a single feeding they may be only partially emptied. This is one reason for milk "drying up", as it is with cows whose bags are not entirely emptied at milking. Breast feeding should be continued until the ninth month.

Breast milk may be maintained or increased by having the baby empty the breast at each nursing. If the baby fails to do this the mother should scrub her hands with soap and warm water, then grasp the breast firmly with the thumb in front and the forefinger under, just back of the areola, and with a motion "back, down and out" eject from the breast any remaining milk. This milk should be collected in a clean glass, previously boiled, and given to the baby. It is not necessary to touch the nipple itself.

The nursing mother should avoid late hours and all sources of nervous excitement and worry.

If after complete emptying (the "manual expression" method) has been tried thoroughly there is still too little milk, give the baby a bottle after each nursing to make up the deficit in quantity of breast milk. Do this under the doctor's guidance.

Occasionally articles in a mother's diet will affect her milk and so in turn may cause eczema in her baby, the result of sensitization. If this occurs omit such things as eggs and cereals, then add them one at a time to the mother's diet, at intervals of five days, and observe the effect on the baby. If no results be obtained, omit meats, then vegetables and replace them one at a time. Breast-fed babies are less apt to have local disturbances than bottle-fed.

When breast-feeding is impossible, cow's milk is the next best food. The feeding of a bottle-fed baby should always be under the direction of a physician who will prescribe the exact proportion of milk, sugar and water as well as the quantity. Trying to follow the neighbors' advice on feeding may help kill the baby.

Milk should always be fresh and sweet and come from a clean dairy—bottled—and from a tuberculin tested herd. Milk must be kept cold on ice. When fresh milk or ice can not be had, canned or dried milk should be used. Bottles, nipples and utensils used in preparing feedings must be thoroughly washed and boiled. Clean hands are essential. Never let flies and mosquitoes touch anything that goes in the baby's mouth or is used in preparing his feedings.

All babies, particularly bottle-fed ones, should be given orange juice daily. Begin with a teaspoonful diluted with an equal part of water and increase to the juice of a whole orange by the sixth month.

Strong bodies are built from good food. Food alone will not insure growth, there must be also plenty of fresh air, sunshine, rest and sleep to help build up a strong body.

Weaning.

Babies should be weaned preferably at from nine to twelve months. Hot weather is, however, an unfortunate time to wean and it is better to postpone making the change until the cooler weather arrives.

Keeping of milk and other foods in the hot season is much more difficult and contamination takes place with much greater ease, and since digestive disturbances in infants and young children most easily attack the children when the temperature is high, continuation of breast and bottle feeding is a lesser disadvantage than running the risk of gastro-intestinal upsets.

After a child has been weaned he requires three wholesome meals a day, at regular hours, with nothing between meals except milk. He needs, between meals, about a quart of milk daily.

Milk and green vegetables make bones, muscles and teeth. Meat and eggs are the great muscle builders. Bread, cereals, starchy food and desserts give strength and "pep" for work and play.

Children must be taught to eat slowly and chew their food well.

Serve the hearty meal at noon with a light supper in the evening.

Between the second and third years minced chicken, mutton and tender beef may be added to the diet. After the third year they can usually eat, safely, tender meats and bacon cut in small pieces. Fresh and stewed fruits, simple puddings, jellies, custards, honey, plain sponge cake and vanilla ice cream make suitable desserts after the third year.

Do not give children tea, coffee, fried foods, greasy gravy, pastry or fresh breads.

The summer heat is hard on babies, it weakens them and makes them susceptible to digestive and bowel disturbances. Overfeeding, impure or spoiled milk or too strong a milk mixture are the chief causes of vomiting and diarrhoea at this time of year. During the summer, lengthen the intervals between feedings, boil the milk for 3 minutes, stirring it constantly while boiling and dilute the mixture one-third to one-half with boiled water. Between feedings give plain boiled water. Orange juice should be continued—it is not solely a laxative.

When curds appear in the bowel movements or when there are three loose passages a day, call your physician. Save a portion of the stool so that he can see the type of bowel movement. Prompt regulation of feeding by the physician usually prevents further trouble. When vomiting or watery and greenish, slimy bowel movements occur, stop all food, and send immediately for the physician. Meantime, give the baby nothing but plain boiled water, in the same amount and at the same intervals as the feeding. Usually, all food is withheld for twenty-four hours.

In older children, unripe or overripe fruit and indiscretions in diet are the most frequent sources of indigestion and diarrhoea. When it occurs, stop all food, keep the child in bed, give him an ounce of castor oil and plenty of water by mouth. When the physician arrives he will prescribe and direct further treatment.

IF THE BABY BE BOTTLE-FED.

Be sure the milk is from healthy cows, and kept clean. A speck of dirt in the milk should keep you from accepting it.

Be sure to put the milk, covered, in an ice-box or refrigerator, as soon as delivered.

Be sure no fly has touched the milk you give the baby. Flies carry diseases.

Be sure to scald the bottles or jars in which the milk is kept. Cool before filling.

Be sure to use round nursing bottles, not flat ones; have them graduated, and with wide mouths.

Be sure that the rubber nipples can be turned inside out for cleansing at least once a day.

Be sure that the nipple-end is completely filled with milk while the baby is nursing. Sucking in air causes colic.

Be sure to wash the bottles and the nipples at once after using.—first in cold water,—then in hot, with soap suds,—and then rinse in cold water.

Be sure to rinse the rubber nipples thoroughly in cold water immediately after using, and then drop them in to a covered glass containing boric acid solution, a teaspoonful to one half pint, boil them every day.

Be sure to have a separate bottle for each feeding.

Be sure to allow 10 to 15, and not more than 20, minutes for the baby to empty the bottle.

Be sure to tell the doctor if you are in doubt whether the baby's food is agreeing with him.

Be sure to ask the doctor or nurse for instructions as to the baby's diet after the first month.

Be sure not to waste your money on patent foods and condensed milk, unless ordered by the doctor.

Be sure to give the baby a drink of cool boiled water between feedings.

Be sure you know what kind of dairy your milk comes from. Always get bottled milk,—never "dipped" or sold in "bulk".

Be sure all bottles and dishes used in preparing the milk are boiled and kept clean.

Be sure that milk is kept cold. A cheap ice-box may be made at home and the milk placed in it as soon as it is delivered. Milk that is the least bit sour is unfit for the baby, and letting it stand outside the ice-box, especially when it is warm weather will hasten the souring.

SOME SLEEP THOUGHTS.

The baby should have its own bed and always sleep alone. Out-of-door sleep is an excellent habit, day or night, except in severe or very windy weather. It helps to harden and strengthen and protects against susceptibility to colds. If out-of-door sleep is impossible, the windows should be wide open and screens so arranged that there will be no draft.

Rocking, trotting, shaking, patting and "pacifiers" are all bad for the baby.

Sleep Table.

New-born baby, and up to 2 weeks, 20-22 hrs.

Gradually more hours awake.

At end of 2 years, 15-18 hrs.

Long naps A. M. and P. M.

Afternoon naps until 4 and 4½ yrs.

After naps stop, a midday rest.

2 to 6 years—nights, 10-12 hours

naps 1-2 hours

6 to 10 years—nights 11 hours

naps 1-2 hours P. M.

CLOTHING THE BABY IN HOT WEATHER.

BABIES ARE MORE SENSITIVE TO HEAT AND COLD THAN OLDER PERSONS.

Clothing should at all times be light in weight and loose and suited to the weather and season.

In warm weather lighter clothing should be worn. Even in cold weather it is not best to use all wool garments next the skin; silk and wool or cotton and wool mixtures are best for shirts and bands.

The following rules have been found to promote health and well being:—

With a temperature of 65°, coat, cap and blanket are needed out of doors.

When the temperature reaches 70°, remove the shirt.

When the temperature reaches 75°, remove stockings and shirt.

When the temperature reaches 80°, remove the dress and slip, leaving only the diaper and a light silk and wool band.

Or the baby may have only a thin cotton undershirt and lie on, rather than be wrapped in the diaper.

On hot days, two five to ten minutes sponges may be given, using cool water and a little soda (one teaspoonful to a quart of water).

THE SICK BABY.

A normal, well baby is bright eyed, happy, content, active while awake, cries but little and sleeps peacefully. Sickness may come on suddenly or gradually. Children are usually four years old or more before they can intelligently answer questions concerning their feelings. Fever and sudden failing of appetite are the most common danger signals of illness in babies. Fever of 100.5°F. and less, may be overlooked without a thermometer.

How to Take a Temperature.

Every mother should know how to use a clinical thermometer and how to read it. The bulb of the thermometer should be well covered with soap or vaseline and inserted into the rectum for about an inch where it is held for two minutes, the baby being held quiet.

If the baby has a fever of 99.5°F. or more, a physician should be summoned immediately. Meanwhile, place the baby in a well ventilated room and give him no medicine until the doctor arrives. Keep a soiled diaper to show the doctor and never give a sick baby anything that has not been ordered for him by the doctor.

It is well to remember that Acute Otitis Media (middle ear disease) and Pyelitis (inflammation of the mucous membrane of the kidney) are the causes of many unrecognized sources of fever. The former can be diagnosed accurately by means of direct inspection and examination of the ear drums. The drums do not always bulge, particularly in the early stages. Pyelitis can be recognized by a microscopic examination of the urine—ten or more white blood (pus) cells per high power field of uncentrifuged urine. In girl babies only catheterized urine is reliable.

The sick baby needs a daily sponge bath. For cold feet or sub-normal temperature apply a hot water bottle or warm electric pad, care being taken to protect the baby's tender skin from being burned. There should be at least one daily bowel movement. Plenty of boiled water should be given to drink. A sick baby should be picked up and handled as little as possible. When fever is high a luke warm sponge several times a day is soothing.

Sick babies require plenty of fresh air and "letting alone." The air should never be cold or damp. Windows in the baby's room can be so raised and the heat so regulated as to insure cool refreshing air while the baby is under covers.

All rashes should be immediately reported to the doctor.

When the baby is convalescing, do not overfeed him. Give him plenty of sleep and leave him to his own amusement during the day. In this way he will acquire sufficient rest to replenish his reserve strength and build up his resistance.

A baby who has been trained in regular and healthy habits while well is more easily cared for when sick.

TEETHING.

Teething should never make the baby ill because it is an entirely normal happening. If the baby be ill, he needs the attention of a doctor. Gums do not become inflamed unless something is wrong.

The "milk teeth" begin to come at six months and by the time the child is two-and-one-half years old its first set of teeth should be complete.

These first teeth need care—regular daily cleansing from the beginning. The popular idea that there is no harm in first teeth decaying is responsible for much trouble with permanent teeth and accounts also for misshapen jaws.

Proper feeding is as necessary for good teeth as keeping them clean.

The mother's diet during the nine months she is carrying the child before birth determines the quality of her baby's bones and teeth.

Teething Table.

First group	6 - 9 mos.	Central Incisors	2 below
Second group	8 - 12 mos.	Central Incisors	2 above
		Lateral Incisors	2 above
		Lateral Incisors	2 below
Third group	12 - 15 mos.	First Molars	2 below
		First Molars	2 above
Fourth group	18 - 24 mos.	Canines (also called,	2 below
		“Stomach” & “Eye”	2 above
Fifth group	24 - 30 mos.	Second Molars	2 below
		Second Molars	2 above.
At 1 Year 6 teeth			
At 1½ Years 12 teeth			
At 2 Years 16 teeth			
At 2½ Years 20 teeth.			

Healthy babies do not always cut their teeth according to this table, and though perfectly normal, may vary somewhat in the time and the order. A baby who has no teeth at the end of the first year is not developing properly. The diet may be to blame. Consult a doctor

THE SECOND SUMMER.

It has been a tradition that the second summer is a very difficult time for the baby and the trouble has been laid to teeth. We now know, however, that wrong feeding is chiefly responsible for a sick baby when the hot weather comes on. A baby may be fretful with uncomfortable gums, as the teeth grow through, but the diarrhoea and digestive disturbances are not caused by the teething. Here we repeat again, the baby getting its own mother's milk is the lucky baby, and otherwise he must have carefully prepared and pasteurized fresh cow's milk. No baby can safely be given even little tastes of candy, pickle, cake, butter and other table food. If his digestion is tampered with, trouble may be expected. Directions for weaning have already been given, and if these are followed closely, and sensible care shown regarding the attention of extra food, the second summer troubles need not appear.

Oatmeal or barley jelly may be added to the milk at the ninth month, and at the twelfth month a small piece of well toasted bread, or a dry crust, may be given to "chew on" once or twice a day. Give no candy or sugar; it makes a "sour stomach". Meat broth with toasted stale bread crumbs, prune pulp, and scraped raw apple may be added one by one.

The number of feedings at fifteen months should have been reduced to four in the twenty-four hours.

By the eighteenth month, baked apple pulp, baked potato, well-cooked spinach, beets and vegetable soups may be given. (See Diet Card, Dept. of Health).

It pays to give the baby only cooled boiled water to drink between his regular feedings. The water having been boiled and cooled, should be put in clean glass jars, kept in the refrigerators. Trust no unboiled water for your baby, however "pure" it is said to be.

ENEMIES OF THE BABY.

1. Flies.
2. Unscreened windows and doors.
3. Dirty playthings and toys.
4. Dusting or sweeping the room while the baby is in it.
5. Using for the baby, a spoon or glass, or cup, that someone else has used before using for the baby.
6. A bottle, nipple, a crust, or a bone tasted by someone else before giving it to the baby.
7. All kinds of candy, ice-cream, tea, coffee, and cakes.
8. Sucking air from a partly filled or an empty bottle.
9. Bright sunlight in the baby's eyes.

10. Taking a baby into a home where there is illness.
11. Taking the baby to "movies", or to any other crowded place.
12. Picking the baby up the minute he cries. (Just be sure he is warm and dry,—that no pins are sticking him,—that hands and feet are not cold. If there is no reason for discomfort, let him cry.)
13. Dogs and cats in the house.
14. Sneezing or coughing near the baby or letting a person with a cold come near the baby.

GRADE A BOARDS OF HEALTH

In an earlier issue of the Listening Post, we promised to publish in the June number the Boards of Health of Pennsylvania which are complying with the 20 requirements necessary to grade them as class A.

Here they are and all honor to them—

Berwick, Columbia County
 Bloomsburg, Columbia County
 Waynesboro, Franklin County
 Emaus, Lehigh County
 Fountain Hill, Lehigh County
 White Hall Twp., Lehigh County
 Allentown, Lehigh County
 Hazleton, Luzerne County
 Kingston, Luzerne County
 West Pittston, Luzerne County
 Nanticoke, Luzerne County

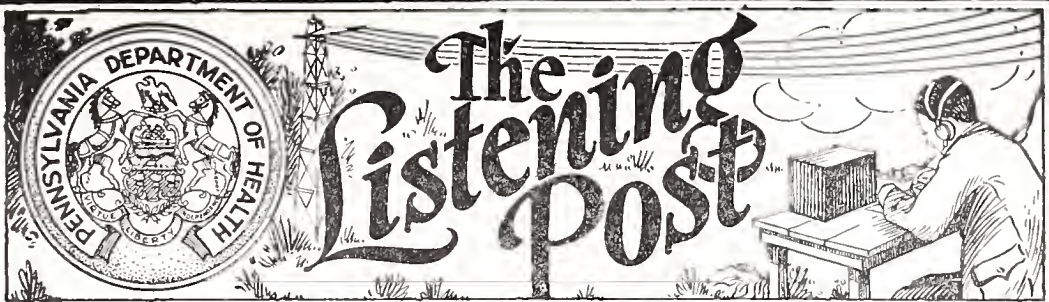
Lebanon Ind., Lebanon County
 Bryn Athyn, Montgomery County
 Narberth, Montgomery County
 Danville, Montour County
 Easton, Northampton County
 Bethlehem, Northampton County
 Nazareth, Northampton County
 N. Catasauqua, Northampton County
 Wilson, Northampton County
 Selinsgrove, Snyder County
 Dallastown, York County

There are probably others. We sincerely hope there are and if they qualify, we will take pleasure in publishing additional lists as they occur.

The readers of the Listening Post may materially help to raise the standard of the Health Boards of Pennsylvania. This list should be a thousand strong. Many towns fell little short of the full requirements, often because of neglect of something which might have been easily corrected.

If you do not see your town on the above list, find out why.

Perhaps your inquiry may stimulate your Board to the extent that it will be listed as Grade A next month.



Issued Monthly
by *The Division of Public Health Education*
Penna. Department of Health

Vol. 1.

JULY, 1923

No. 8

School days are approaching.
Now is the time to protect children against diphtheria.
Three small doses of toxin anti toxin will make them
safe. Ask your Doctor about it.



The Health Gnome Says —

*Keep your body well and stout
To keep health in and sickness out,
See your Doctor once a year
And have him overhaul your gear.
If you have cancer or nephritis,
Diabetes or bronchitis,
Heart disease, tuberculosis,
Or liver hardening with cirrhosis,
The Doctor will, for sure detect them
And early treatment may correct them.*

The Listening Post

A MONTHLY JOURNAL OF PUBLIC HEALTH

EDITOR
William C. Miller, M. D.

Address communications to The Listening Post,
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Harrisburg, Pennsylvania.

Vol. 1

Harrisburg, Pennsylvania, July, 1923

No. 8

"Acceptance for mailing at special rate of postage provided for in section 1103,
Act of October 3, 1917, authorized April 6, 1923."

Editorial

The letters of commendation which we have received are evidence that the efforts to make the "Listening Post" a useful aid to workers for Public Health have not been entirely in vain.

While limitation in the matter of finance made it necessary, several months ago, to reduce its pages from 32 to 16, it was planned to continue it as a monthly publication.

Still further curtailment, however, appears to be necessary and from this time forth publication will be quarterly.

The next issue will appear in October. In the meantime the "Listening Post" will be listening for suggestions—shall we keep the name or change it—if so, to what? How many pages should it contain? Should it be illustrated? Would you prefer that each number stress one particular subject or would you have the contents diversified?

Would you have reports of the different bureaus in each issue? Would you have tables of statistics or what would you have?

Send in your idea and don't be backward about it. Don't hold back for fear of wounding the delicate sensibilities of the Editor. Your criticism will do him good and he will like you the better for it.

The June issue is largely devoted to babies. If you happen to be so unfortunate as to have no baby of your own, give, or at least loan, your copy to some person who has one. The edition is limited to 5,000 and we have very few extras.

HEALTH EXAMINATIONS.

The Pennsylvania Department of Health—the Committee on Public Relations of the State Medical Society co-operating—called a meeting of public health workers at the Senate Caucus Room, State Capitol, June 21st., for the purpose of considering the proposition of launching a State campaign for health examinations.

After a free discussion, it was decided that such a campaign was not only advisable but feasible.

A general committee composed of 88 persons, with Dr. Charles H. Miner, Secretary of Health, as Chairman, was appointed to prosecute the campaign. Dr. Miner appointed the following persons as members of the executive committee—Dr. Edward Martin, Dr. William C. Miller, Dr. Howard Frontz, Dr. J. George Becht and Rev. C. Waldo Cherry—to advise with him in the formulation of plans and to work out such details as might be necessary to the successful culmination of the project. The committee adopted the slogan of the National Health Council, "Have a health examination on your birthday," and prepared a list of minimum requirements for the use of physicians in making health examinations. This list of requirements, which is obtainable on application to the State Department of Health, is intended as a guide to physicians in making examinations.

In Pennsylvania in 1922 the death toll of

Kidney disease was	9155
Tuberculosis	7940
Diabetes	1414
Cancer	7759
various forms of heart disease	16107

There is no law to compel people to conserve their health but an established widespread general sentiment will contribute largely to the effect.

In a letter issued to Clubs, Lodges and Societies, the Secretary of Health asks them to co-operate by passing a resolution endorsing health examinations and recommending each of their members to have a health examination at as early a date as possible. He asks them to pass a further resolution requiring all future candidates for membership to submit evidence of a recent health examination as a pre-requisite.

The family physician is the logical person to make this examination.

It is not intended, or expected, that applicants for membership to lodges, clubs or societies should be absolutely free from blemish, nor is it the idea that they should report, with their application, the existence of physical defects. It is presumed that if physical defects be present, the examining physician will make the proper recommendations. All the Department asks is the applicant for membership indicate by a signed slip from a physician that they have recently undergone a health examination.



Issued Quarterly
by The Pennsylvania Department of Health

Vol. 1.

OCTOBER, 1923

No. 9.

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DIPHTHERIA

Can be Controlled, Prevented and Cured

SAVE THE CHILDREN

Have you heard of the Schick Test? Ask your family physician to explain it.

Give the children a chance. They deserve it.

The children of today are the nation of tomorrow. Let's have a healthy nation.

The Pennsylvania State Department of Health furnishes antitoxin free.

When your child complains of a sore throat, call your physician.

This is a communicable disease and if not promptly treated is dangerous.

The earlier antitoxin is administered, the more certain are the chances of recovery.

All contacts should be immunized promptly.

Material for Schick Test and Toxin-antitoxin Mixture will be furnished free by the Pennsylvania State Department of Health, until June 1, 1923.

Many deaths caused by diphtheria are due to neglect.

Toxin-antitoxin injections will protect against the disease.

The Schick Test is harmless and determines whether or not a person catches the disease.

HELP US TO HELP YOU—LET'S WORK TOGETHER

Additional information may be obtained from your physician or Dr. J. Treichler Butz, Health Officer, Dept. of Health, Room 311, City Hall, Allentown, Pennsylvania.

Another method is to ask the State Department of Health to send a speaker to explain the advantage of the administration of toxin-antitoxin as a means of prevention against diphtheria. Should you hold such a meeting, do not fail to canvass the community thoroughly so that there will be a full and representative attendance.

Every community should have a Health Center. The Department of Health provides for pre-school children, that is, children up to and including 6 years of age, free toxin-antitoxin. The distribution is made, upon application, through Health Centers. In order that proper records may be kept (for this is essential to team work), all applications must be accompanied by slips signed by parents or guardians, indicating approval of the administration of toxin-antitoxin to their children. Upon similar application, accompanied by parental consent slips, any Physician of Pennsylvania, exclusive of the cities of Philadelphia and Pittsburgh (which have provisions of their own), will be sent toxin-antitoxin for the use of his patients, regardless of age, upon the payment of its actual cost. All bills are collectable at the manufacturing plant. The State Department of Health, acting merely as disbursing agent, sends out the toxin-antitoxin upon proper request and turns the orders over to the manufacturers, who collect from private Physicians at wholesale rates.

The toxin-antitoxin treatment consists of three small doses, administered one week apart, but owing to its instability and the fact that it can be properly kept only under refrigeration, the doses will be sent out as needed. The first dose immediately upon application, the second and third doses following automatically at intervals of a week.

Children under 6 months of age are usually not susceptible to diphtheria. Therefore toxin-antitoxin is not recommended during the

first 6 months of life. In order that there may be a check up as to results, the Schick Test is required 6 months after the administration of toxin-antitoxin. It is well to impress upon parents the value of the Schick Test after the administration of toxin-anti-toxin. The Schick Test consists of the introduction between the layers of the skin, usually in the fore-arm, of a very small quantity of diphtheria toxin. If after 2 days, or more, a reddish spot is noticed at the point of injection, it is an indication that immunization has not been effected and that the child remains susceptible to diphtheria. If, on the other hand, no reaction occurs, the parent may rest upon the assurance that the child is immune from diphtheria.

In order that you may be sure that you are properly pulling with the great team, as soon as you have organized, get in touch, by correspondence, with Dr. J. Bruce McCreary, director of the Bureau of Child Health, State Department of Health, who has charge of this campaign.

The Health Gnome Says

Toxin-antitoxin gives protection
And safety from diphtheria infection,
Do not hesitate a day
Ask your Doctor right away,
To give the first immunity injection.



70 +

Extract from Address delivered at the Convention of Graduate Nurses at Pittsburgh, October 24th.

William C. Miller, M. D.

"The days of our years are three score and ten;" so wrote King David of old and even today the 70th milestone is regarded as marking the end of the road, but the Psalmist added that "by reason of strength", mark well the words, there might be a still further extension.

What kind of strength is this, which will lift us up and carry us beyond the presumable natural limitations of life? Is it the strength of a Sampson to slay a lion with naked hands, to carry off the gates of a city on brawny shoulders? Is it the strength which enables

us to perform unusual feats—to run fastest—to leap highest—to heave huge weights or twist iron bars? If such were the strength required, few indeed would reach even the mark of three score and ten.

The normal human being is ushered into life weak and helpless, but endowed with potential vitality to live, grow and flourish.

Like a harp of a thousand strings attuned to harmony, each organ and part functions in unison with every other and performs its labor in accord with the original plan in the economy of nature. As the years advance, environing conditions bring dangers from without, while ignorance of, or perhaps indifference to, natural requirements, weaken the defenses within.

The defense within is "the strength", which is the guardian of our lives and the stay upon which we lean to take us over the goal line of three score and ten.

When disease producing bacteria, regardless of kind, enter the human system, the tendency is for their rapid increase, which is accompanied by the throwing off of toxin or the poison of disease. The presence of toxin stimulates the blood to manufacture an antidote which we call antitoxin and to increase the number of white blood corpuscles to make war upon the invading bacteria.

The success, or failure, of the defense is dependent, to a large measure, upon the degree of efficiency in the operation of the organs responsible for the maintenance of the body balances.

What is true of resistance against acute communicable disease, is alike conformable to the degenerative diseases which endanger middle life; if the agents of nutrition and elimination be functioning properly, the probability of arresting a lung condition is much greater than if nutrition were poor and elimination incomplete.

The heart often accomplishes compensating adjustment against apparently serious lesions when other body conditions are favorable; the same is true of other organs which may be the seat of degenerative processes.

Last year Pennsylvania's toll to degenerative diseases was 43,000. Of this number, the greater majority die at the period of life, in which they are of greatest service to the world, of highest value to the State and of the utmost need to their families. The number is greater than I have given, because I have taken only the total of five diseases—Bright's disease, cancer, diabetes, heart disease and tuberculosis. With the exception of tuberculosis, which occurs at all ages, all are essentially diseases of middle or after middle life; all including tuberculosis, are preventable and even after development, are subject to improvement and often arrest under proper medical direction.

There is always a chance of life extension, beyond the period of probability, if the case had been left uncared for.

Degenerative diseases are usually slow of development, so that if an examination today were to give a clean bill of health, the individual might rest with reasonable security in the belief that during the period of one year, no degenerative disease would develop to an extent beyond the possibility of arrest.

The campaign for health examination has for its slogan, "Have a health examination on your birthday." The birthday is suggested because it is a time all are sure to remember, and because it comes once a year whether you admit it or not.

The logical person to make the examination is the family physician.

* * * * *

In the matter of the control of communicable disease, we have quarantine laws and health regulations, the violation of which entails penalties—but for the control of degenerative diseases, there is no law—no one can be forced to take a health examination; it therefore, resolves itself into a campaign for education.

You will find many persons who hesitate to go to the doctor for examination through fear of the possible finding—it is wrong.

The urinary test which discloses sugar or albumin is by no means a death warrant neither is a heart lesion to be regarded as a reason for despair.

I should be inclined to say that the person who has albuminuria at 45 is lucky, because such an individual will almost certainly live in accordance with medical direction and by so doing, is more likely to reach a good old age, than is the person who eats and drinks without regard to rule and who tries to make a middle age body act like a young one.

* * * * *

If every person over 35 were to have an annual health examination, golden wedding celebrations would become common occurrences. All of us who are really and truly heart and soul interested in this movement—which means so much to the human race and to the world's progress, must bend our energies toward educating the public, as to its value and make use of every effort to popularize it—we must advertise.

Universal health examinations mean that instead of the limit of life being three score and ten, it will be 70+. Let us work for 70+, and let it be our sign. When you mail a letter put the 70+ sign on its back that all may see. People who do not know what it means, will inquire about it; to those who do know, it will be a reminder. Let us spread the gospel of the 70+ far and wide and in every way possible that humanity may profit and the world be richer.

BOARD OF HEALTH

Since the issuance of the June "Listening Post", containing a list of Boards of Health which have qualified as Grade A, so many inquiries have come in, as to the requirements necessary to obtain this classification, that we feel justified in printing them again.

- 1—Board of Health must be regularly organized with full membership in accordance with law and must hold monthly meetings.
- 2—Board must make weekly reports to the Division of Vital Statistics, regular reports to the Division of Restaurant Hygiene and annual reports to the State Department of Health.
- 3—The Board must exhibit co-operation with the State Department of Health by prompt attention to correspondence.
- 4—Board must have the co-operation of the Council.
- 5—Board must receive an annual appropriation sufficient to carry on its work or must have satisfactory arrangement with the Council, under which all their bills shall be met.
- 6—Board must have an efficient Secretary.
- 7—Board must have an efficient Health Officer.
- 8—Board must be enrolled in District Association and dues paid.
- 9—Board must enforce quarantine.
- 10—Physicians must be required to make reports of all diseases notifiable by law.
- 11—The requirements of the Restaurant Hygiene Division must be carried out.
- 12—Disinfection after communicable diseases must be carried out in a manner approved by the Secretary of Health.
- 13—The town must have adequate sewers or privies and cess pools maintained in accordance with the requirements of the Department of Health.
- 14—The Board must maintain regular sanitary inspection and eliminate nuisances.
- 15—There must be wholesome and adequate water supply.
- 16—Board must maintain supervision over the milk supply.
- 17—The town must have clean streets and alleys.
- 18—The housing conditions must be in accordance with the requirements of the Division of Housing.
- 19—The anti-spitting law must be enforced.
- 20—The Health Officer must investigate rumors of reported disease, and cases thus found referred to the medical member of the Board for diagnosis and quarantine.

All Boards of Health in Pennsylvania are classified in the files of the State Department of Health in accordance with the above articles. There are 4 classes, A, B, C and D, signifying in their order, excellent, good, medium and poor.

The following scheme of classification has been adopted:—

- Class A—observance of 20 articles
- Class B—observance of 18 articles
- Class C—observance of 16 articles
- Class D—observance of 14 articles or less.

There are no doubt many Boards of Health not listed in the June issue of the Listening Post, which are entitled to be classed as Grade A Boards. We shall be glad to print the list which shall qualify during the next three months in the January issue. The following story is not told to cast reflection upon the work of any Board of Health, but we consider it apropos:

When Uncle Ned returned from South Africa he brought with him, among other curios, an ostrich egg, which the young hopeful of the family, at a favorable opportunity, appropriated and carried to his treasure house in the backyard; where it was later discovered by the Lord of the Flock, as he was making his rounds in pursuit of the "early worm". His astonishment was so great that for the moment he was nonplussed, but he soon regained his poise and sounded the general assembly call. The hens came flocking from every direction in eager anticipation of an appetizing feast; Chanticleer standing in front of his find, proceeded to address them something like this:—"Ladies, I have called you together as you may suppose, for a particular purpose, and I wish to state in the beginning I have no fault to find with you either individually or collectively" — "In fact I think you are as fine a bunch of chickens as I have ever seen. You are healthy, sprightly and good producers and I want you to understand, that no discredit attaches to you, but—(stepping aside)—I just want to show you what they are doing in other places."

Advisory Health Board

The Advisory Health Board, appointed in accordance with the provisions of the administrative code, met at the office of Dr. Charles H. Miner, Secretary of Health, on September 21st, for the purpose of organization and the consideration of future plans.

The Board is composed of men, who have not only had wide experience in public health, but who reside at points of the State which are strategic for the observation of professional and public reaction as to health practices.

The Board consists of—

Dr. Edgar Green of Easton. Chief Attending Physician of the Easton Hospital, trustee of Lafayette College and a County Medical Director for 17 years. Dr. Green, who was reappointed, has been a member of the Advisory Board for 10 years.

Dr. A. A. Cairns, Philadelphia, who is Chief Medical Inspector of the city of Philadelphia, was also reappointed. Dr. Cairns has been a member of the Advisory Board for 4 years.

Dr. S. R. Haythorn, Pittsburgh, is Professor of Pathology and Bacteriology at the University of Pittsburgh.

Dr. H. C. Frontz, Huntingdon, on the staff of the Huntingdon Hospital, President of the State Medical Society and County Medical Director for 17 years.

Dr. Lewis H. Taylor of Wilkes-Barre, Ex-President of the State Medical Society, has been engaged in public health work for 40 years. Dr. Taylor is the author of the widely published report of the Plymouth typhoid epidemic in 1885.

Mr. Charles F. Mebus, Philadelphia, is a member of the American Society for civil engineers, a prominent consulting and civil engineer

of wide experience in the design and construction of water works, sewer systems and sewage treatment work.

VITAL STATISTICS FOR PENNSYLVANIA

SIX-MONTH PERIOD

JANUARY TO JUNE, INC., 1922 and 1923

By Wilmer R. Batt
State Registrar.

A summary of the mortality in Pennsylvania for the first six months, 1923, shows a total of 68,385 deaths from all causes as compared with 58,933 for the same period of 1922.

Something more than half of this increase of almost 10,000 deaths was due to respiratory diseases, chiefly pneumonia in some of its various forms, and occurred during the first three months of the year.

The deaths for the several months of this period calculated on the basis of the corresponding annual death rate per thousand of population were:

	1923	1922
January	16.4	13.5
February	19.5	15.5
March	16.8	15.3
April	15.2	13.1
May	12.7	11.6
June	11.5	10.1

The climatic conditions during the early months were not at all unfavorable as compared with other years, but there seems little doubt that the inability to provide warm and dry homes was in a large degree responsible for the increased number of deaths from respiratory diseases and of course a tremendous increase in the sickness rate.

Of the infectious diseases of childhood measles caused 1,138 more deaths during the first six months of 1923 than for the same period of 1922. It represents one of the periodical outbursts of this disease which we experience every three or four years. 91,238 cases were reported to the State Department of Health in the first six months of 1923 as compared with 19,670 in the same period of 1922.

The number of births occurring in the State in the first six months of 1923 was practically identical with the number in the same period of 1922. In the former period there were 108,284 births and in the latter period there were 108,778.

Deaths from certain important causes exclusive of stillbirths:

	1922	1923
Total deaths exc. of stillbirths	58,933	68,385
Typhoid fever	132	159
Scarlet fever	226	220
Diphtheria	711	747
Measles	240	1,378
Whooping cough	253	577
Smallpox	5	0
Influenza	2,701	4,147
Malaria	5	3
Tuberculosis of lungs	3,840	3,836
Tuberculosis of other organs	574	522
Cancer	3,898	4,154
Diabetes	714	811
Cerebrospinal meningitis	193	189
Anterior poliomyelitis	14	17
Pneumonia	8,350	11,108
Diarrhoea and enteritis, under 2 years ..	1,099	1,083
Diarrhoea and enteritis, 2 years and over	259	269
Bright's Disease and nephritis	4,933	5,587
Early infancy	3,538	3,394
Suicide	532	493
Mine accidents	320	488
Railway injuries	288	431
Other forms of violence	1,954	2,198
Automobile accidents	399	548
All other diseases	23,755	26,026
Stillbirths	4,830	4,907

Bureau of Child Health,

Medical Director, Dr. J. Bruce McCreary.

In line with the administration's policy of consolidation of Departmental work, the Secretary of Health merged the Division of Child Health, School Health and Dental Hygiene and formed the Bureau of Child Health. A resume of the special work of each of the three branches, which are designated as Pre-School, School and Dental Divisions, is given by their respective Chiefs.

School Division, Jan. 1 to June 1, 1923.

Mr. John Ziegler, Chief.

Completed the medical inspection in 764 school districts of the fourth class, including 6,474 schools and 191,300 pupils.

Forwarded follow-up reports to teachers and letters recommending treatment and correction of defects for 129,936 pupils.

Received reports from 5,816 teachers reporting 29,925 pupils having received treatment or defects corrected.

Reports concerning the sanitary condition of school buildings with recommendations for correction where necessary were issued to 764 school boards.

Conducted special sanitary surveys of school conditions in Luzerne, Indiana, Franklin and Snyder counties.

Forwarded 230 blue prints and specifications for building of standard outside school toilets.

Approved the installation of septic tanks and subsurface disposal fields for 8 multiple room school buildings.

Pre-School Division, Jan. 1 to June 1, 1923.

Dr Mary Riggs Noble, Chief.

Fifty-one counties were visited by the three organizers for purposes of organization and consolidation of Health Center Work.

Severe winter weather and coal shortage greatly interfered with the baby work in January—several centers closed down entirely, opening later as roads opened with spring weather.

Emphasis was placed upon the Sunday School Campaign by all the organizers, and the place to work this among the church babies has proved to be one of the most successful—seventy-five campaigns are known to have been conducted. In several instances the work was undertaken with the county as the unit, notably in Venango and Lackawanna Counties where the results were impressive.

Early in the year, the first midwife survey of Lackawanna County was well under way and the supervision of midwives started. Six unlicensed women were convicted in the county. In February, Schuylkill County midwife work was begun by a special worker. By the end of June, midwife work was a "going concern" in all four counties, to which the work is limited. Dr. Reis divides her time between the counties. The State Nurses visit the babies and Dr. Reis directs, supervises and instructs the mothers—special attention being given to getting rid of unlicensed women.

In Pittsburgh, under the auspices of the Congress of Clubs of Western Pennsylvania, a baby campaign was conducted in a prominent Department Store. The firm erected and equipped the booths on one side of its auditorium and supplied a variety of garments and paraphernalia for demonstration, and the number of babies receiving complete physical examination on our State record forms was unexpectedly large.

In May, the Governor signed the Enabling Amendment, receiving in a manner satisfactory to the Bureau, the Sheppard-Towner funds for infancy and maternity work.

Seventy-eight audiences were addressed by the staff of the Division and approximately four thousand people thus reached.

The statistics for the baby and prenatal work follow, for the first six months and for the third quarter.

Prenatal Clinics
Statistics for Jan.-August, 1923.

	State			Non-State		
	New	Return	Total	New	Return	Total
January	16	37	53	497	1,219	1,716
February	20	39	59	327	827	1,154
March	17	90	107	820	2,974	3,794
April	26	89	115	768	3,094	3,862
May	23	65	88	972	3,320	4,292
June	32	96	128	1,029	3,529	4,558
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Total 6 mo.	134	416	550	4,413	14,963	19,376
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July	32	121	153	109	3,309	3,418
August	38	66	104	1,099	3,520	4,619
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Total 2 mo.	70	187	257	1,208	6,829	8,037
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TOTAL	204	603	807	5,621	21,792	27,413
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	New			Return	Total	
	5,825			22,395	28,220	

Dental Division,
Dr. C. J. Hollister, Chief.

For three years, the State Department of Health has been engaged in demonstrating to local communities the importance of the care of the teeth of children.

The plan has been, to make formal request to school boards throughout the State for permission to put on a demonstration of one or two weeks, without cost to them. If granted, the mobile dental clinic with its operating personnel goes to the community and demonstrates the value of a preventive dental, practical and educational system in a school curriculum, especially for the primary grades. During the stay of the traveling clinic, arrangements are made for its personnel to address welfare bodies in the community, such as—Kiwanis, Rotary, Lions' and Women's Clubs, Parent-Teachers' Associations, Chambers of Commerce, School Boards etc.

Since January 1, 1923, in addition to those already functioning, seventeen communities have installed nineteen dental hygienists in their schools, and ten more are under consideration. Sixty dental hygienists are working in the schools of Pennsylvania at the present time. Two dental hygienists have been installed in State Mental Hospitals, and one in an industrial plant.

Statistical evidence of dental defects obtained from school medical inspection reports, show over *seventy percent* of all the school children in the State suffers from dental defects.

The Chief of the Dental Division, with his assistants, prepared an exhibit which was shown at the Annual meeting of the American Dental Association, held at Cleveland, Ohio, September 4-19. Ten thousand dentists in attendance, represented every State in the Union. As a part of the exhibit were two huge maps (cuts of which are shown on the following pages) setting forth the plan of organization of dental health education in Pennsylvania.

Map No. 1 shows the distribution of the State into zones, together with the location of corrective dental clinics, preventive dental service, where a dental hygienist is employed and towns which have both dental clinics and dental hygienists.

Map No. 2 shows the plan of the organization through which the Central Office at Harrisburg and the Pennsylvania State Dental Society, to which great credit must be given for its helpful cooperation in the State Dental Campaign,—supervise the correction of tooth defects in school children.

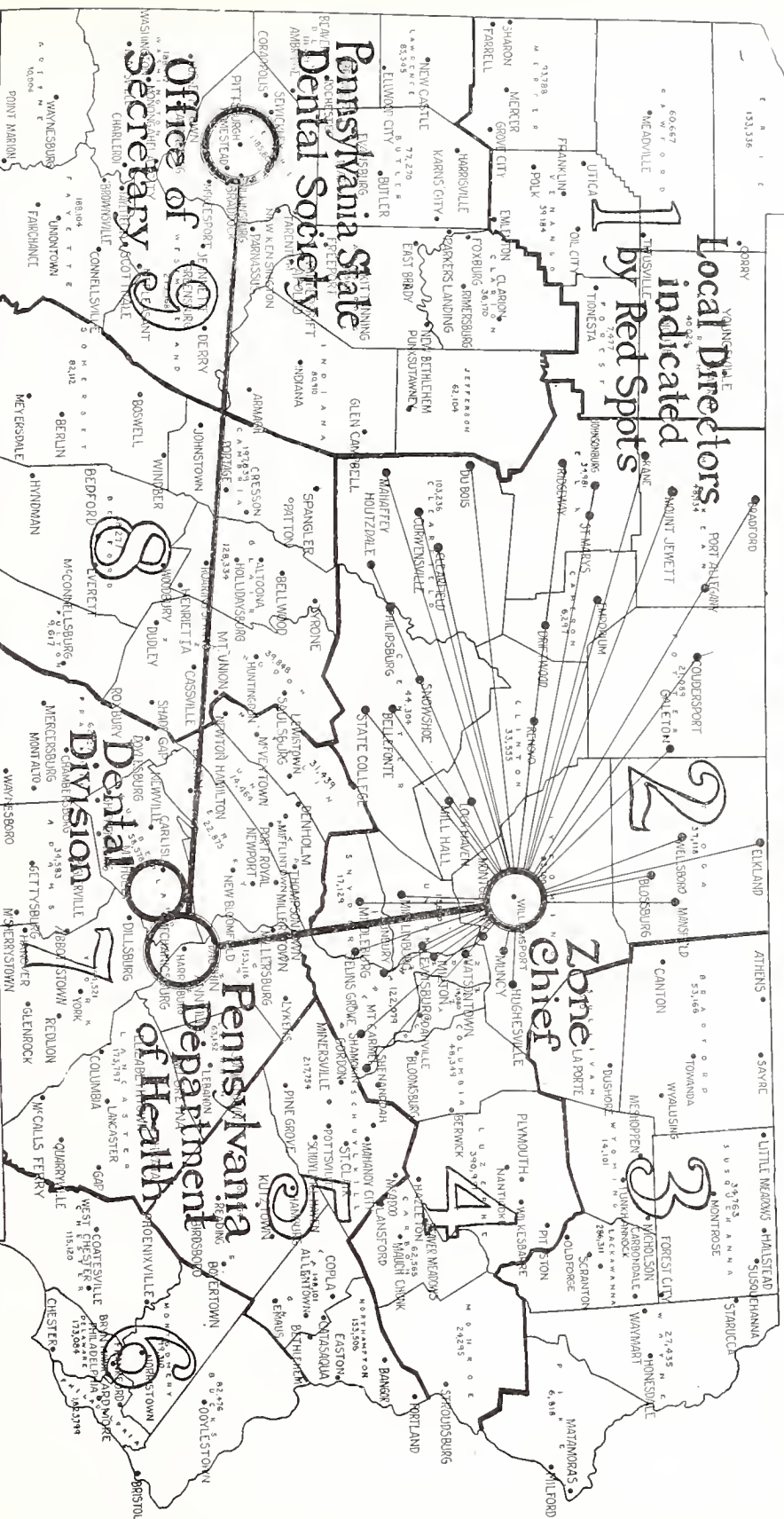
Each of the zones is organized in the same manner. The organization of zone No. 2 is used to illustrate the plan. In each zone there is a Zone Chief, appointed jointly by the Pennsylvania State Dental Society and the Pennsylvania Department of Health. His service is voluntary and he receives no compensation. The Zone Chief acts in a supervisory capacity over all the clinics within his jurisdiction. The lines radiating from the Zone Chief to the different towns of Zone No. 2 indicate the dental clinics in that district. The dentists in charge of the various clinics are appointed upon the recommendation of the Zone Chief and also serve without pay.

The reports from the various clinics to their respective Zone Chiefs are transmitted to the Central Office of the Pennsylvania Department of Health.

This form of organization has not only been found to work out satisfactorily, but it has resulted in a marvelous extension of interest in the correction of tooth defects of children, because every clinic worker automatically develops into a public educator along the line of corrective dentistry for children.




Public Dental Health Education in Pennsylvania

Scheme of Organization

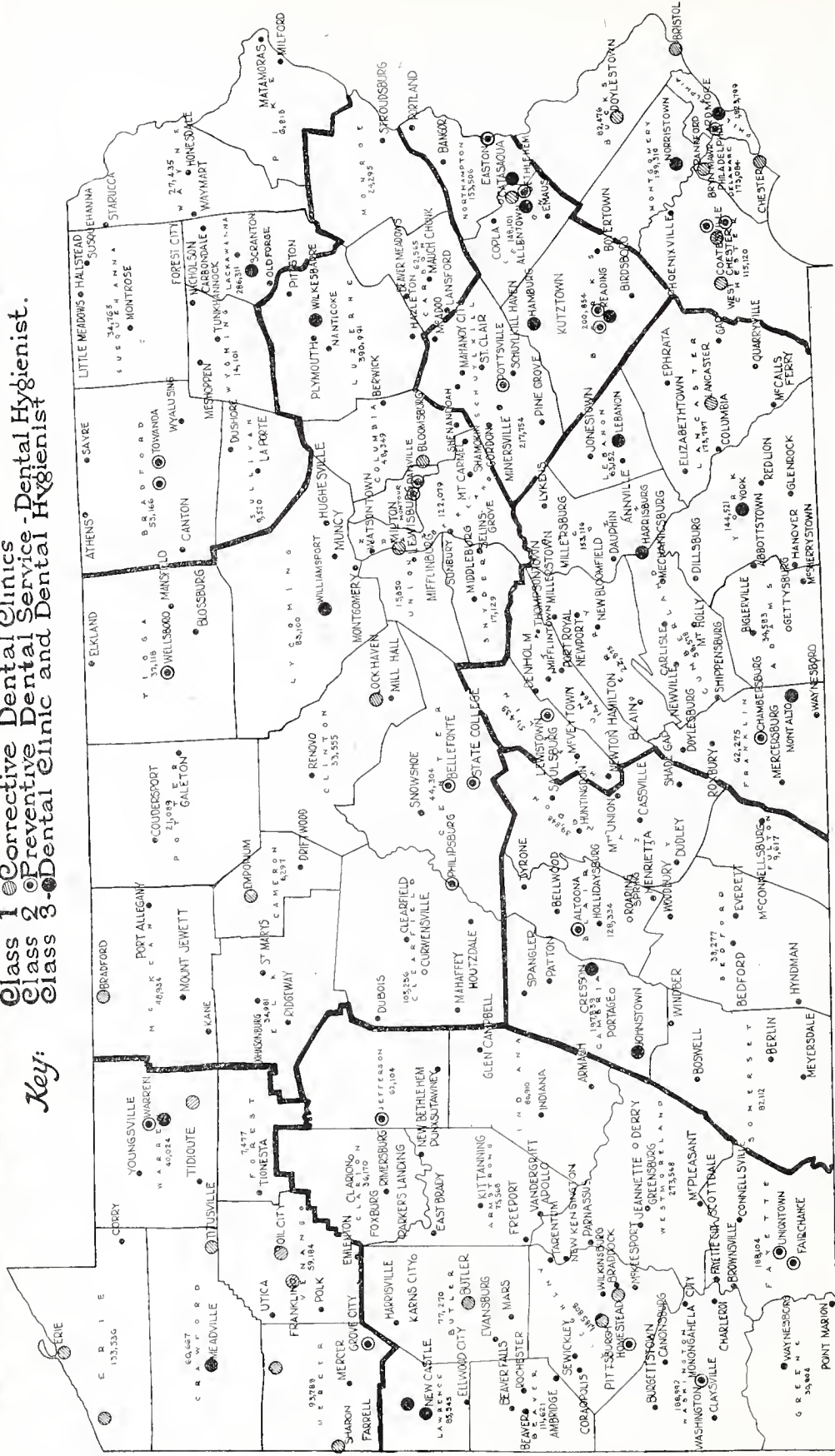


All Zones are Organized as Zone 2

Public Dental Service in Pennsylvania

1  Corrective Dental Clinics
Class
2  Preventive Dental Service-Dental Hygienist.
Class
3  Dental Clinic and Dental Hygienist
Class

Key:



Division Lines indicate proposed zoning of State for Educational Activities of State Dental Society.

The State Nurse on Guard.

By Miss Alice O'Halloran,
Director, Bureau of Nursing.

During the present year the work of the Nursing Division has been steadily progressing toward higher standards of public health and social betterment. Notwithstanding the effects of a period of reorganization and retrenchment, the nurses have responded well, and were found ready to meet new requirements placed upon them.

In various sections of the state the functions of health officers have been taken over by the nurses, in addition to their field work and service in clinics.

Up to the beginning of September the total number of visits made by patients to state clinics was as follows:—

Tuberculosis clinics,	41,653
Genito-Urinary clinics,	72,761
Child Health Centers,	32,151
Prenatal clinics,	319

The nurses in this time made 116,736 visits to the homes of patients,—an average of 14,592 visits per month.

An important feature of the work in connection with the health centers is the follow up and correction of such common defects, as diseased tonsils and adenoids, decayed teeth, defective vision et cetera. Over eight thousand corrections have been accomplished this year, and in cases of indigency glasses have been procured through the nurses' efforts.

In the intensive campaign against diphtheria which was conducted in May and June, 9,300 persons were given the Schick test, and 12,811 received the toxin-antitoxin treatment for immunization. This work was largely among school children and those of pre-school age who are most susceptible to the disease.

Over 42,000 cases of communicable disease have been visited and investigated through the first eight months of the year. In every instance the nurse gave instruction as to proper care of the patient and precaution against the spread of the disease.

Much work of this nature is being done in the following counties: Cambria, Fayette, Schuylkill, Northumberland, Washington, York, McKean, Bucks, Susquehanna, Montgomery, Lawrence, Adams, Greene, Somerset, Snyder, Chester, Clearfield, Lycoming, Mifflin, Westmoreland, Wayne, Union, Armstrong, Clinton, Berks, Bedford, Blair, Bradford, Dauphin, Columbia, Monroe, Delaware, Franklin, Huntingdon and Lebanon.

In addition to the foregoing duties, the State nurses stand prepared for whatever emergency may arise, whether it be a call for service in a miners' eviction camp, an epidemic, accident, fire, flood or disaster.

PUBLIC MILK SUPPLIES

Ralph E. Irwin, Chief, Milk Control Division.

In 1732, Mr. Schaeffer, founder of Schaefferstown, Lebanon County conducted water from a spring through hollow logs to a trough in the village square. This was the first public water supply in Pennsylvania. Twenty-two years later, Bethlehem, Northampton County, and sixty-nine years later, the city of Philadelphia, installed public water supplies. Then followed a rapid development. Today more than 900 public waterworks supply practically every community in our State.

The public milk supply is following a similar development. As we are compelled to give up the spring or well in our back yard or that of a neighbor, so today we are unable to keep a cow to supply our family with milk or purchase from a neighbor. The individual milk supply is giving way to the public milk supply.

As the community grew, the dairy cow kept moving away from the center of population, until it became necessary to deliver milk by wagon, then by local railway train and now by refrigerated express cars or insulated automobile trucks, from country receiving and cooling stations. Our milk supplies have even outdistanced our water supplies in the matter of distribution. The milk left on our doorstep today may have been delivered yesterday from a farm located hundreds of miles away. Such milk, however, may be in better condition than that brought from a local dairy farm, because of recent improvements in refrigeration and transportation.

Milk is distributed from house to house much as the public water supply is distributed—we may know the name or office location of the water or milk distributor, but we know not the source or safety of the supply. We may judge its appearance and taste, but we depend upon public officials for safety.

The public water supply is obtained from one or at most a few sources, is slow to change in quality and its preparation and distribution are carried on by very few people. The public milk supply, on the other hand, is obtained from many sources, is a most perishable product, and its preparation and distribution require the services of many.

The source of our water supply—the spring, well or stream—is protected in every way possible against contamination, but failing in this, the water is treated by filtration or by chemicals. When the source of our milk supply—the herd and those who handle the milk—is not known to be free from disease, the milk should be treated by pasteurization to make it safe.

These treatment processes are beyond the control of the water or milk consumer, are of great public health concern and necessarily become a matter of supervision by trained public health officials.

In our State each municipality is authorized to provide such control of its milk supply as is deemed advisable. Doubtless this is cor-

rect. State control exists to promote uniformity in the regulations of the various communities and to aid those desiring assistance in the preparation or enforcement of local regulations. The milk supply in any municipality is under the control of the municipality and its condition is that desired by those in authority. Here is an opportunity to demonstrate community pride in a public milk supply as has frequently been done in water supplies.

Bureau Drug Control.

J. N. Lightner, Chief.

During the period from June 1 to August 30th, 1923, forty-four drug peddlers and addicts were arrested and convicted, receiving sentences from three months to four years.

The Bureau's Inspectors have been co-operating with the Federal Narcotic Agents in Pittsburgh and Philadelphia.

Narcotic raids were conducted in two cities, Harrisburg and Pittsburgh. On account of these raids, numerous addicts have applied for institutional treatment for the purpose of affecting cures from the habit, and in many instances permanent cures have been effected.

ACTIVITIES OF BUREAU OF ENGINEERING JANUARY 1st to AUGUST 31st, 1923, INCLUSIVE

Primarily, engineering in health work deals with public water supplies, sewerage and major health nuisances; in practice, it involves disease epidemics, safe milk, housing conditions, garbage and rubbish disposal, treatment of industrial wastes, eradicating the mosquito, etc.

The Bureau of Engineering of the Department of Health comprises the chief engineer, an assistant chief engineer, civil, sanitary, chemical, milk control and housing engineers, 8 district and 8 assistant engineers, and stenographic and clerical force. The State is divided into 8 districts, each in charge of a district engineer.

70 per cent of the total population of Pennsylvania obtains drinking water from 650 public waterworks. Of these, 163 have filtration, 247 use a chemical germicide and the remaining 260 depend upon watershed protection or long-time storage to yield a potable water.

Waterworks may be built or extended upon the issuance of a permit by the Secretary of Health. Nearly 1500 permits have been issued since 1905. From January to September 1923, 67 were granted. Permits are issued, upon recommendation of the Bureau of Engineering, which later inspects the waterworks to see that its requirements are complied with, and that the filtration and chlorination plants insure safe water. Since the first of the year, inspections of 163 filtration plants and 202 chlorination plants were made.

The purity of drinking water supplies used in Interstate traffic is certified to the U. S. Public Health Service upon recommendation

of the Bureau of Engineering. Up to the end of August, 51 certificates were issued.

In Pennsylvania there are 974 municipalities, half of which have public sewers. There are 192 sewage treatment works. Permits must be issued for all new sewers, sewage treatment works and for the discharge of sewage. Field investigation and examination of the plans of sewage projects is the province of the Bureau of Engineering. During the last 17 years more than 1600 such studies have been made, 51 since January 1st.

In matters of stream pollution, the Bureau of Engineering operates under the Sanitary Water Board, which consists of the heads of five (5) State Departments with the Secretary of Health as Chairman. This Board is also authorized to investigate and report upon ways and means of preventing and eliminating pollution, detrimental to the public health, or the health of animals, fish, aquatic life or to the use of waters for recreational purposes.

MILK CONTROL

Milk Control is carried on to prevent communicable disease transmissible through milk and to increase the consumption of safe milk. Detailed supervision is effected through the local officials of municipalities; in townships of the second-class, the Department has entire supervision.

Milk Control activities may be classified as follows:

1. The enforcement of Advisory Board Regulations concerning milk. The Advisory Board Regulation approved April 4, 1923, provides that *milk sold to the consumer as raw milk shall be obtained from herds tested at least annually for bovine tuberculosis and that those who handle the milk, until it is in containers which have been filled and closed, shall undergo a medical examination at least semi-annually. Milk not obtained from tested herds shall be pasteurized.*

Pasteurization is defined as subjecting the milk to a temperature of not less than 145 degrees Fahrenheit or more than 148 degrees Fahrenheit for a period of not less than thirty minutes.

Those handling milk during and after pasteurization shall pass a medical examination similar to that given those who handle raw milk

2. The preparation of milk regulations suitable for municipalities requesting assistance. Thirty-four smaller municipalities, having a total population of over one million, have enacted such milk ordinances.

3. Assisting in the passage of milk ordinances and their enforcement, when requested by municipalities.

4. Assisting, when requested, in the operation of milk treatment plants, for the correction of quality factors, such as taste, odor, creaming power, etc.

5. Inspecting the dairy farms furnishing the three institutions for the treatment of tuberculosis; all have plants where the milk is clarified and pasteurized.

The Bureau's Chemical Laboratory, in addition to routine work, makes special investigations in problems of water supplies, sewage treatment and industrial wastes. Since January 1923, 541 analyses were made of water and sewage, 192 of narcotic drugs and miscellaneous. Under miscellaneous are 22 analyses of sand for filter plants and 25 microscopic examinations of water.

25 per cent of Pennsylvania's population resides in rural districts where the health laws are directly administered by the Department of Health. Since January 4000 inspections were made in these districts, 779 nuisances reported and 788 abatements secured.

The Housing Division of the Bureau is charged with the administration of the Law; the active field work is carried out by the district engineers and their assistants.

It is the plan to enlist the cooperation of local boards of health in handling housing work, and thus enlarge the sphere of administration of the housing law.

The 85 County fairs, attended yearly by over two million people, and the Pennsylvania's National Guard Encampment at Mt. Gretna were inspected with reference to the purity of the water supply, safe excreta disposal and the disposition of garbage and manure. The health of the campers at 100 camps has been safeguarded through engineering examinations.

From January to August, inclusive, the Bureau has made sanitary investigations of 59 epidemics of milk and water borne disease, a number of which has been typhoid fever on dairy farms. Of special import, because of the large number of cases in comparison with population, are the typhoid fever outbreaks at Karthaus, Edgewood and Locust Gap.

Since the first of the year, one sewage treatment plant has been reconstructed and put into operation, four filtration plants have been started and 19 chlorination plants have been installed.

To ascertain the condition of some of the major streams of the State, the Chief Engineer made a field inspection of both the North

and West Branches of the Susquehanna River, Lackawanna River, Clarion River, a portion of the Allegheny River and the Youghiogheny River.

The prolonged drought of 1922 reached its peak in January 1923. The most acute situation was in Washington where the water supply for almost 30,000 people was nearly depleted. The chief Engineer assumed charge and with a force of engineers carried out a program of conservation, including rationing of the supply, which continued until a reserve was established and immediate stringency relieved.

About the middle of summer when Pennsylvania was verging on drought conditions, the Secretary of Health issued a circular letter to about 350 waterworks, calling attention to the drought and suggesting measures for conservation of water. An extensive rainfall relieved the immediate danger, except in the Shamokin, Mt. Carmel and Pottsville region which is in the Southern Anthracite Coal Fields. Here the situation has been and is still acute, necessitating the rationing of water in a number of the larger communities. Temporary supplies, chlorinated to safeguard the public, were used to augment the normal supplies.

Conneaut Lake in Crawford County and Harvey's Lake in Luzerne County are the first and second largest natural bodies of water in Pennsylvania. Each place is a summer resort. The Bureau of Engineering during the present year undertook an intensive clean-up campaign at each place. This entailed an investigation of water supplies, sewage disposal, garbage disposal and general cleanliness, the collection of numerous water samples, the placarding of those shown to be unsafe, the giving of advice relative to sewage and excreta disposal and other activities bearing on the general health of the communities.

At Harvey's Lake, a printed card entitled "Sanitation at Harvey's Lake," containing advice and suggestions about water supply, sewage disposal, garbage, fly eradication, etc., was distributed to each property holder on the watershed.

The importance of such work is evident when it is understood that each resort is visited during the vacation season by thousands of transients who, in case of infection by typhoid fever, for instance, might carry the disease into other communities.

Work of a similar nature was carried on at Lake Nuangola and at Saylor's Lake.

Bureau of Communicable Disease Control.

Dr. J. Moore Campbell, Director.

The re-organization of the Department of Health in the early part of the year combined the Communicable Disease Division, the Tuberculosis Dispensary Division and the Genito-Urinary Division into one Bureau, designated the Bureau of Communicable Disease Control. This merger has resulted in a definite economy. Venereal dis-

eases and tuberculosis offering the tremendous problems which they do, a Chief of Division has been continued in charge of each. The advances each of these may have made in the way of re-organization or in effective work will be outlined separately by those in charge.

The old Medical Division has become the Division of Epidemiology. Its outstanding need has long been a trained field service with the addition of one or more epidemiologists attached to the Central Office and available for field work in emergencies. With the appropriation at its command, no real re-organization of its health officer force has been thought feasible, but a real forward step has been taken in employing so far as possible, health officers on salary and having them give their entire time to the sanitary and quarantine work in their districts. Wherever available conditions permitted, Department nurses have been assigned to health officer work. These assignments have especially improved the field service. To date approximately thirty counties have been given this better service.

Prior to the Session of the 1923 Legislature, many of the provisions of the quarantine law had become obsolete. The law itself was subject to criticism in that various details of quarantine were specified and were, therefore, unalterable except through legislative action. A new law eliminating the objectionable features of the old one was passed. Its most important provision is the conferring of authority upon the Department of Health and the Advisory Health Board to make such quarantine regulations as may be considered necessary, including authority to alter or abolish provisions as made in accordance with advances of the public health practice. An entire re-writing of the quarantine regulations has been accomplished and approved by the Advisory Health Board. They will have become effective by the time this number of the Listening Post goes to print.

Division of Genito-Urinary Control.

Edgar Everhart, M. D., Chief.

The Legislature of 1923 passed a law which deals with prostitution in a more effective manner than any previous mandate on the statute books. It allows the Magistrate to punish the frequenter as well as the prostitute without the fact of personal immorality being proved. The sentence is a fine up to \$1000 or imprisonment not exceeding eighteen months, either or both at the discretion of the Court. Prostitutes may be imprisoned in sectarian institutions peculiarly adapted to their rehabilitation, provided the Department of Public Welfare and the State Department of Health approve of such institution, and provided further, that sentences are to be directed to an institution of the professed faith, if there be such, of the individual.

Pennsylvania's Department of Health takes the position that the police power should be used coincident with that of health officials, in that the power to quarantine should be applied after an investigation made by the State Police force, which investigation would

justify the institution of criminal proceedings. The latter, however, being deferred until the disease factors are rendered negligible through the quarantine procedure.

Since June 1st, the State Clinics have the following activities to their credit—patients admitted, 5528; rendered noninfectious, 2999; cured, 1038; quarantined, 2256; number of lectures, 72 with an attendance of 17,000.

Patients treated are of a type which would not receive attention, had they not been treated in the clinics.

During the summer of 1923, the Division's State Wide campaign against the disease spreading carnival was again instituted, resulting in a diminishing number of these shows in the State. The Department's concern in the carnival is justified because of the inevitable wake of venereal disease following its activities.

As the result of the Division's contract with different prison boards, the majority of penal institutions in the Commonwealth are now equipped for the examination of all inmates and for proper treatment of those venereally diseased.

In order to meet the economies necessarily occasioned by a reduced appropriation, a small charge sufficient to cover the cost of material used by patients in clinics has been set, for those able to meet it. Patients not being able to pay even the small sum are treated free as formerly. In no sense does this plan compete with the private physician. The hearty co-operation of the clinicians has been given to it.

What is Happening this Year in the Tuberculosis Division

John D. Donnelly, M. D., Chief.

In accordance with the program outlined by the Secretary of Health, the Tuberculosis Division is pursuing the State's established tuberculosis policy. In every town where there are State Chest Clinics, overhead expenses are defrayed by the community. The Health Department furnishes equipment, supplies and nurses. The physicians appointed by the Secretary of Health receive a small remuneration.

The combination of local and State support is practical. It helps stimulate local interest and furnishes means whereby indigent cases and those capable of improvement are cared for and admitted to the State Sanatoria. Provisions are made for children, contacts and those with latent tuberculosis.

Up to September 15th, there were 109 State Chest Clinics in Pennsylvania. On this date the cities of Philadelphia and Pittsburgh assumed responsibility for their own clinics, leaving the Department 95 clinics. The Philadelphia and Pittsburgh clinics have

been made Admitting Centers for the State Sanatoria, which gives them the privilege of listing their patients for sanatorium care directly through the office of the Division of Tuberculosis. In Pittsburgh there is retained a State clinic chief to look after patients in Allegheny County.

A number of industrial corporations are aiding the Department of Health. One has provided beds in a sanatorium for their tuberculous employees.

During the first eight months of 1923, the State Chest Clinics examined 13,896 new patients of whom 3314 were found to be tuberculous. Patients attending the clinic made 35,707 return visits or in all, a total of 49,603 visits have been made so far this year to the State clinics.

Since the first of the year the State nurses have made 65,292 visits to tuberculous patients. Those who have a physician or can afford to pay for medical services are not admitted to these clinics unless referred by a physician to whom they are returned after an examination and study. There are many who can afford the average medical fee, but not the expense of keeping a patient in a sanatorium. Such can be admitted to the State Sanatoria when recommended by the State clinic to which they are referred by their physician.

The clinics are desirous of examining as many children as possible, particularly those who are subject to frequent colds or who are under-weight or malnourished.

So far this year there have been over 2,000 patients admitted to the State Sanatoria at Hamburg, Cresson and Mont Alto. Cresson and Hamburg Sanatoria are taking children and all classes of pulmonary tuberculosis, that are capable of improvement. Mont Alto admits only adults in the early stages of the disease. The average time between making application and receiving notice to report is one month.







ISSUED MONTHLY

By The Pennsylvania Department of Health

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*“A skillful leech is better far,
Than half a hundred men of war.”*

SAMUEL BUTLER.

The Listening Post

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EDITOR

Wm. C. Miller, M. D.

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THE EVOLUTION OF THE DOCTOR

"Honor the Physician, with the honor which is due unto him, for the uses
which ye have for him, for the Lord hath created him."

Ecclesiasticus.

The country Doctor with his ambling horse, his saddle bags, his mud-stained leggings and his heart of gold, has gone forever.

No way was too long, no road too rough, no weather too severe to hold him back when duty called. They said he was made of iron and he liked it for the Doctor was human, and often a bit of flattery was the only compensation he received for his services. He was a type—if his patients paid him, well and good—his fee was small. If they failed, it mattered little to him. His drugs were few, but he administered them with heroic abandon. His teas were bitter, his purges drastic, his emetics certain and his blisters energetic, his cupping glass was always at hand and his lancet drank the blood of rich and poor alike; his surgery was crude, but he was equally ready to extract a tooth, amputate a leg or trephine a skull. He recognized "laudable pus" and regarded its presence as a favorable omen. The pulse, the tongue, the skin and the excretory system were his guides to diagnosis. Considering his handicaps, he was singularly successful. His manner was gruff yet tender and sympathetic amid scenes of sorrow and distress.

He was an outstanding figure in the settlement, better educated with far wider experience than his neighbors; he exercised an unconscious influence that extended further than he knew. His was the day of the beginning of development, the day of trees and axes, of log cabins and wood fires.

Out of the forests came the giants of those days, not giants of bone and brain, but intellectual superiors (and who can say how often their growth owed its stimulus to the precepts and example of the soft hearted man of iron?) They led their fellows to better conditions, and towns and villages became centers of commercial exchange and social progress.

Then came the village Doctor, whose horse and phaeton were familiar objects on the somewhat better roadway. Distances were not so long nor ways so hard, but they were all sufficient. He became identified with his town as a necessary part of it. He too was physician, surgeon and accoucher.

Somewhat better equipped than his predecessor, his results were often more gratifying. He worked alone and became self reliant and resourceful and, (perhaps because enthusiastic admirers were wont to sing his praises), a trifle egotistical. He was inclined to resent interference and was apt to regard invasion of his field by another Doctor as an infringement against his inalienable rights, for he knew every soul in the village and was at once their advisor, their counselor and the repository of their secrets.

With the passing years, his views broadened and he learned to welcome association with his medical neighbors. He found he did some things better than others and almost unconsciously he became a general practitioner, with a specialty, but still a general practitioner. He advanced with the times but often cast a longing glance cityward, as often to turn again to the post which he had come to regard as a sacred trust.

With the advent of motor driven vehicles and consequent floor-like roads, distance has been eliminated and the village has become the outskirts of the city, the country the backyard of the village and the need for the village Doctor is passing. He has had his place in the order of things, he has lived his life and when he pays the debt of nature, there will be none to take his place—for the Doctor has gone to the large town and the city. The general practitioner, or family doctor as you please, still exists, but his number is diminishing and his field is often restricted to guiding his patient to the Surgeon, the Ophthalmologist, the Gynaecologist, the Orthopedist, the Dermatologist, the Laryngologist, the Heart Specialist, the Lung Specialist, or whatever one or another of the several score of other varieties he may have need of and after that, to play a minor part.

From a professional standpoint, there can be no doubt that specialization by certain men along certain lines has been responsible for great advances in medical practice. It is equally true that an individual, who devotes his entire effort to one particular service, can perform that service better than he could perform it, were he expending only a portion of his energies in that direction and devoting the balance elsewhere; and so we conclude that medical science is better served and that portion of the public, which has need of particular attention, is better served because of specialists. Therefore, it is best that there be specialists—some specialists, but not all specialists. If this growing tendency to specialization continue as

it appears likely to do in the evolution of the Doctor, the public will be the loser of the intimate confidential relationship of the family Doctor. The Doctor himself will be deprived of a recompense, not measured by dollars and cents, which has been the comforting and sustaining influence in the life of every general practitioner, who loved his profession for the good he might be able to do for humanity.

There is wide need for the general practitioner, the family Doctor, the man whose night bell is connected, who can intubate a larynx, suture a lacerated perineum, reduce a fracture, differentiate and prescribe for pathological conditions with equal facility.

It may be, in the fullness of time, his counsel will be sought to preserve health rather than restore it. He should aim toward that ideal. His field is humanity and his opportunity, to play an important part in the great health team which is striving to make future generations stronger, healthier and longer lived.

W. C. M.

THE COUNTRY DOCTOR

There's a gathering in the village that has never been outdone
 Since the soldiers took their muskets to the war of 'sixty-one;
 And a lot of lumber wagons near the church upon the hill,
 And a crowd of country people, Sunday dressed and very still.
 Now each window is pre-empted by a dozen heads or more,
 Now the spacious pews are crowded from the pulpit to the door;
 For the coverlet of blackness on his portly figure spread,
 Lies the grim old country doctor, in a massive oaken bed.
 Lies the fierce old country doctor,
 Lies the kind old country doctor,
 Whom the populace considered with a mingled love and dread.

Maybe half the congregation, now of great or little worth,
 Found this watcher waiting for them, when they came upon the earth;

This undecorated soldier, of a hard, unequal strife,
 Fought in many stubborn battles with the foes that sought their life.

In the night-time or the day-time, he would rally brave and well,
 Though the summer lark was piping, or the frozen lances fell;
 Knowing if he won the battle, they would praise their Maker's name,

Knowing if he lost the battle, then the doctor was to blame.
 'Twas the brave old virtuous doctor,
 'Twas the good old faulty doctor,
 'Twas the faithful country doctor—fighting stoutly all the same.

When so many pined in sickness, he has stood so strongly by,
 Half the people felt a notion the doctor couldn't die;
 They must slowly learn the lesson how to live from day to day,
 And have somehow lost their bearings—now this landmark is away.

But perhaps it still is better that this busy life is done:
 He has seen old views and patients disappearing, one by one:
 He has learned that Death is master both of Science and of Art:
 He has done his duty fairly, and has acted out his part.
 And the strong old country doctor,
 And the weak old country doctor,
 Is entitled to a furlough for his brain and for his heart.

Will Carlton.

IS THERE A SCARCITY OF PHYSICIANS IN RURAL PENNSYLVANIA?

Several weeks ago, the Director of the Bureau of Public Health Education was directed by the Secretary of Health, to make inquiries concerning the growing scarcity of doctors in the rural districts of Pennsylvania. Letters written to the County Medical Societies brought many responses, the consensus of which was the telephone, the automobile and good roads have so shortened distance and lengthened time, that today one Physician can accomplish with ease a volume of work which would have required vigorous effort for three, several years ago. We reprint an extract from the letter of Dr. A. R. Johnston, New Bloomfield, because it is interesting, entertaining and contains food for thought—

Dear Doctor:—

This is in reply to your letter of December 18th, relative to a scarcity of doctors in rural communities.

The number of practitioners of medicine in this county now is just about half what it was when I began, and for your enlightenment, I might say that since that important event the flowers of more than forty summers have bloomed and faded. Not very long before that time, any point at which a storekeeper, a miller, a blacksmith, a shoemaker, a tailor and a doctor located became the recognized center of activity for a radius of five or ten miles. Now we only buy at the local store those things that we cannot get from Sears and Roebuck, we eat bread that was baked in a distant city from flour that was ground in Minneapolis, and these and many similar changes of custom have almost obliterated the small community centers.

Largely as a result of these changed conditions and customs, the dear old country doctor, whose unquestioned ministrations strengthened the living, comforted the dying, relieved the suffering and consoled the mourning, is a character which henceforth will be found only in song and story. This, so far as medical practice is concerned, is *progress* which all should promote. The few doctors now in this county can do the work that is to be done better than twice the number did it forty years ago. Improved means of travel double our efficiency. Pathological laboratories, X-Ray and other modern equipment help us. After we have done all we can, we send some to the hospital and sometimes the surgeon does the rest—then we all rest. Some get their vertebrae adjusted. All these modern ideas operate to relieve the once renowned country doctor.

Obstetrics is a part of the country doctor's work which is not appreciably influenced by consolidations of capital or improved methods of production and, perhaps for that reason, has been less effected by modern ideas than anything else. In view of the great importance of proper advice and care during the two years following conception, better service should be provided for the heroines of these occasions. There should be, and some day there will be, in rural districts, provisions which will offer to every pregnant woman the help to which her importance as a social and an economic factor entitles her. This is the pressing need in the country and the place where, no doubt, reconstruction will begin. These provisions should include accommodations for the accouchement of such as would accept them, and the wisdom of accepting them should be urged. The hospital feature

of these proposed centers should be developed to meet the needs of the communities they serve, but the feature of prime importance will be the obstetric and child welfare feature. These centers will be organized and promoted by the progressive people of the community and the doctor will be a factor whose importance will be commensurate with his professional ability and his common sense. These small institutions will co-operate with and receive assistance from better equipped hospitals and laboratories.

The first requisite necessary for this evolution is education, and it is being supplied by various welfare movements and is taking root. The generation that is now being instructed will not be satisfied with present methods.

The second requisite, for the community covered by my acquaintance, is a few more funerals among the profession. This can be relied upon with as much confidence as the progress of the first requisite, and therefore, I have no suggestions for its promotion.

After these requirements have been met, a little more prosperity for agricultural pursuits will, I am sure, turn the trick for Perry County.

To recapitulate:

1st—Perry County is not scarce of doctors; not yet, but soon.

2nd—When that time comes, centers for instruction and service in matters pertaining to health will be established.

Very truly yours,
A. R. Johnston, M. D.

While the physicians are practically unanimous in the belief that there is an all sufficient number of medical men for the general need, we have heard little from the laity. The Listening Post would be glad to receive and pleased to publish lay views on this important subject.

The Health Gnome Says

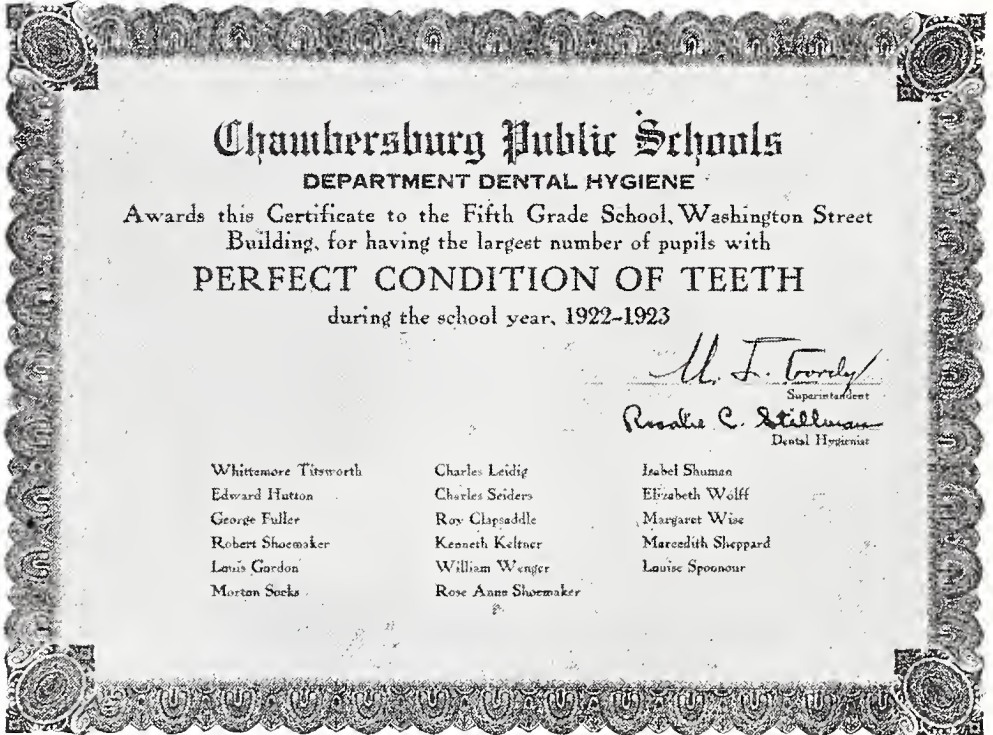


Keaton Jackson in his youth,
Had a bad bicuspid tooth.
"What's the odds?" laughed reckless Keaton,
"I still have plenty left to eat on."
Tooth brush, powder, floss and paste,
Keaton thought a woeful waste.
His molars and incisors crumbled,
"I do without 'em", Keaton grumbled.
Now he suffers divers ills,
And spends his cash for doctors' bills.
Keaton's sure in bad condition
With indigestion—mal-nutrition.
Aortitis, heart disease
And rheumatism of the knees.
Boys and girls, pay strict attention,
There is no cure that beats prevention.

DENTAL HYGIENE AT CHAMBERSBURG

Report by Superintendent of Schools, U. L. Gordy.

A dental hygienist was first employed in the Chambersburg schools in January 1922. By operating on about twenty-five percent of the pupils in a room, we found it would be possible to put this service in all the rooms during the year and give all the children in the district the benefit of some personal contact and formal instruction by the hygienist.



We felt this needed a sustained stimulus and decided to feature a perfect condition of teeth record in each room. Printed forms were supplied to the dentists, all but one co-operating. When a pupil brought to the teacher a certificate from his dentist saying his teeth were clean and all cavities were properly treated, his name was written on the black-board in a space reserved for this purpose. The list in all rooms is published once or twice a year in the local papers. The room having the most personal certificates is awarded a general certificate of honor.

The general certificate shown here was won in 1923 by the fifth grade, Washington Building, taught by Miss Grace Kyle. There were 45 pupils in the room and 17 certificates of perfect condition of teeth.

This year we have at the end of the first semester a number of rooms having 20 or more certificates. The leading room, having 24 certificates from the 45 pupils enrolled, is the fifth grade, Franklin Building, taught by Miss Mildred Freidenger.

THE STATE LABORATORY

.....Penna.

January 30, 1924.

Editor of the Listening Post,
Department of Health,
Harrisburg, Pennsylvania.

Dear Sir:—

I have been interested for a long time in the different activities of the Pennsylvania Department of Health. I am more or less familiar with the character of work done in your Tuberculosis and Venereal Disease control clinics. I have visited a number of child health clinics and know something of the good work which is being done by the School Health Division. Of course I come in frequent contact with the Engineering Bureau and the Communicable Disease Bureau. I would like to know something more about your Bureau of Laboratories. Does the State Laboratory function only for the State Department or is it available to Pennsylvania Physicians at large?

Very truly yours,

.....M. D.

Dear Doctor:—

We print your letter because we feel that, in a sense, you express what may be in the minds of many other physicians, and we wish to give the answer as wide publicity as we can.

The Laboratory of the State Department of Health is located in Philadelphia at the University of Pennsylvania. Any communication directed to the State Department of Health Laboratory, University of Pennsylvania, Philadelphia, will receive immediate attention.

The State Laboratory functions first for the State Department of Health, but its service is open and free to any physician in Pennsylvania. Last year the Laboratory examined 69871 specimens; of this number 35593 were Wassermans and 8443 were Gonorrhoea Smears.

As an illustration of the service offered to medical men, suppose a physician had a patient with an ulcer which resisted treatment for 6 months, or if the patient were over middle life, for 3 or 4 months. If a specimen be sent to the State Laboratory, together with a history of the case and a statement of what is suspected, a diagnosis will be made and report forwarded to the physician within a very few days. Specimens sent to the Laboratory should be as large as possible. The injection of a few drops of 4% novocain will usually render the removal of the section painless. The section should include, if possible, a portion of good tissue and should be $\frac{1}{8}$ to $\frac{1}{4}$ inch in size. Of course there are instances, such as tumors about the eye lid, where specimens of this size are impossible. The specimens should be sent in a regular mailing case (mailing cases may be obtained by writing to the Division of Supplies, State Department of Health, Harrisburg, Pennsylvania). Such specimens should be covered with weak formalin or a weak solution of alcohol. Mailing containers for sputum and examination of urine and feces may also be obtained from the Division of Supplies. When the latter are sent to the Laboratory, a report of the findings will promptly be mailed to the physician.

All physicians are equipped for the qualitative examination of urine, but when a doctor desires to know the quantities of albumin or sugar present, the State Laboratory will be glad to make the proper analysis and render him the report. Wassermans are made in like manner free of charge to any doctor who may send a blood sample from a suspected case. In addition to that, autogenous vaccines are prepared and sent out within 48 hours in concentrated form, accompanied by a slip giving full directions as to administration and dose. Autogenous vaccines are advised for deep seated local infections, sinusitis, middle ear disease, prostatitis, etc. Culture outfits, with full directions for obtaining specimens, may be secured, upon application to the Division of Supplies.

All biological products such as vaccine virus, antitoxin for diphtheria and tetanus and toxin antitoxin, are standardized in the State Laboratory before being sent to the public. This is done by taking specimens at random from every batch submitted, and no batch is accepted unless the specimens submitted have complied with the most rigid exactions. Parasitic diseases are much more common than generally supposed, and it is advised that in all vague cases of illness, an examination of the stools should be made. Tape worm is particularly prevalent in locations where there is a large foreign population.

DIPHTHERIA CARRIERS

Three surveys of Baltimore school children were made at different times in the year. Seven thousand seven hundred and ninety cultures were examined; 387 of which were morphologically positive, while 114 proved to be virulent. Also 22 cultures which were classified as suspicious proved to be virulent. The following points were then noted. The months of November and December showed more carriers than other months. A higher incidence of carrier infection was found in younger than in older children and also higher incidence in white children than in colored children. Enlarged and diseased tonsils were found in a large per cent of cases. Out of 11 virulent carriers three gave positive Schick tests and eight negative. No carriers gave a history of contact with diphtheria cases.—J. A. Doull and Theuber Toles, *Am. J. Hyg.*, 3:604, Nov., 1923. E. S.—*Am. J. P. H.*

Extracts from Rules and Regulations of the Pennsylvania Department of Health—approved September 21, 1923.

The maximum incubation periods for certain diseases shall be officially regarded as follows:

Acute poliomyelitis (infantile paraly's)	14 days
Cerebrospinal meningitis	14 days
Chicken pox	16 days
German measles	14 days
Measles	14 days
Mumps	21 days
Scarlet fever	10 days
Smallpox	18 days
Diphtheria	5 days
Whooping cough	14 days

HOW BOARDS OF HEALTH MAY OBTAIN COOPERATION FROM A FOREIGN POPULATION

Address to District No. 1 Association Boards of Health.

By Dr. A. H. SMINK.

You will concede that the subject of this address does not easily lend itself to treatment and presupposes a pretty wide experience in the field which the State has assigned to us for cultivation. The health matters of Northumberland County have frequently brought me in direct contact with foreign population, and I feel justified in thinking that in the course of my activities I have passed through a typical experience. The enforcement of the Health Laws of the State is a difficult task in any community, but doubly so, should the community in question be composed of a predominantly foreign population. Under such circumstances the Board of Health must first familiarize itself with the mentality of such a population.

The European, who immigrates into our country and settles among us with the intention of earning his living by means of hard labor, belongs generally to the lowest stratum of society in his native land. At home he lived under circumstances and in localities in which there was no need to pay attention to health matters, from the point of view of public safety. Health laws for him were either non-existent, or, in the contrary case, very lax. Hence, no restrictions were placed in the way of his activities. He raised cattle, swine, goats and sheep. He was used to handling manure to suit his convenience. He never needed to fear any interference on the part of the State. From these facts you can understand what must be his surprise when in this, what he considers a free country, instead of finding more liberty in these matters, he meets with many restrictions. He is surrounded by a maze of Borough or City Ordinances and State Health Laws which to him appear unnecessary, uncalled for and very mystifying by virtue of the fact that they are couched in a language with which he is unfamiliar. Coming in conflict with such regulations, and being penalized for violating them, he is quickly disabused of the notion he has entertained of this free country, and realized that the interpretation he attached to the freedom with which we are blessed does not harmonize with ours. Without the knowledge of the foregoing facts, his attitude toward our Health Laws cannot be properly appreciated. Hence, to obtain his cooperation we must first endeavor to disarm his prejudice. This can best be accomplished by enlisting the good services of his Americanized countrymen.

A foreigner of the lower class is generally backward and timid, but diffidence and mistrust are probably his most conspicuous characteristics. This mental attitude is the resultant of the exploitation and maltreatment to which he was subjected at home. It is the treatment accorded to him in his native land that makes him suspicious of the law-making and law-enforcing body in this country. To dispel this mistrust and obtain his cooperation, his confidence must first be gained. This can be accomplished by showing impartiality in the administration of Health Laws. Discrimination in his disfavor would only serve to embitter him and render him more refractory. He becomes very submissive, however, when he discovers that a viola-

tion of the law brings with it an equal punishment, regardless of the transgressor.

To inject politics and religion into the issue would have the effect of widening the chasm between the Board of Health and the foreign-born denizen. There is nothing he resents more than narrow-mindedness and bigotry. The Board of Health is a body whose duty it is to safeguard the interest of the community as a whole; it should in no way be swayed by political affiliation or religious convictions. To ignore this precaution would be tantamount to impairing its own usefulness, especially in a community which is composed of foreign population.

It is also a mistake to deny recognition to the naturalized foreign-born citizen on the Board of Health. He is the one, who, when imbued with the proper American spirit, can be instrumental in accomplishing the most good in the ranks of his own countrymen. They will look up to him, will second his efforts, and through him the Board of Health will experience little or no difficulty in obtaining their cooperation, for their trust and confidence in him will be instinctive.

Such, in my opinion, must be the attitude of the Board of Health to obtain the cooperation of the foreign population. There may be other factors I have left out of consideration advisedly with the view to rivet your attention to the essentials. If the Board of Health shows absolute impartiality; if it exercises patience and explains to the foreign-born the "how" and the "wherefore"; if it gives him recognition by placing at least one of his class on the Board of Health and bars all political and religious considerations; then his prejudice will soon be disarmed and that cooperation gained, which will prove a boon to the whole community and which will shed its blessings on it very perceptibly.

INFANT MORTALITY IN PENNSYLVANIA

The average death rate of infants under one year of age in Penna. is 85 out of every 1,000 births. Below is given a resume of counties and towns which markedly exceed or fall below this rate in 1922.

COUNTIES

High		Low	
Berks,	90	Adams	60
Cambria	95	Butler	58
Carbon	94	Clinton	62
Fayette	116	Crawford	63
Indiana	102	Forest	61
Lackawanna	102	Perry	56
Lehigh	105	Potter	47
Luzerne	98	Sullivan	62
Schuylkill	107	Tioga	57
Washington	97	Union	43

TOWNS

High		Low	
Beaver Falls Beaver Co.	130	Carrick	Alleg'h'y Co. 43
Johnstown	116	Wilkinsburg	Alleg'h'y Co. 60
Chester	122	Phoenixville	Chester Co. 60
Dunmore	177	Connellsville	Fayette Co. 64
Olyphant	115	Uniontown	Fayette Co. 49
Hazleton	109	Chambersburg	Franklin Co. 60
Shamokin	126	Bradford	McKean Co. 36
Mahanoy City ...	114	Oil City	Venango Co. 57
Shenandoah	147	Greensburg	West'd Co. 57
Tamaqua	127	Warren	Warren Co. 63

INFANT MORTALITY WITH SOME CORRELATIONS

Wilmer R. Batt, M. D.

In every statistical table relating to Infant Mortality, we are impressed by the comparatively high rates existent in certain localities.

It has been customary to present these rates for individual municipalities having ten thousand or more population. It is not always easy, however, to arrange in our minds the relation which these localities may bear to each other from a geographical standpoint.

When we extend our observations to a larger territory than the municipalities, we find that there is a decided grouping within our State of these high areas.

Taking the county as a unit and indicating by shading the high, intermediate and low spots, we find the State rather definitely outlined in relation to infant deaths.

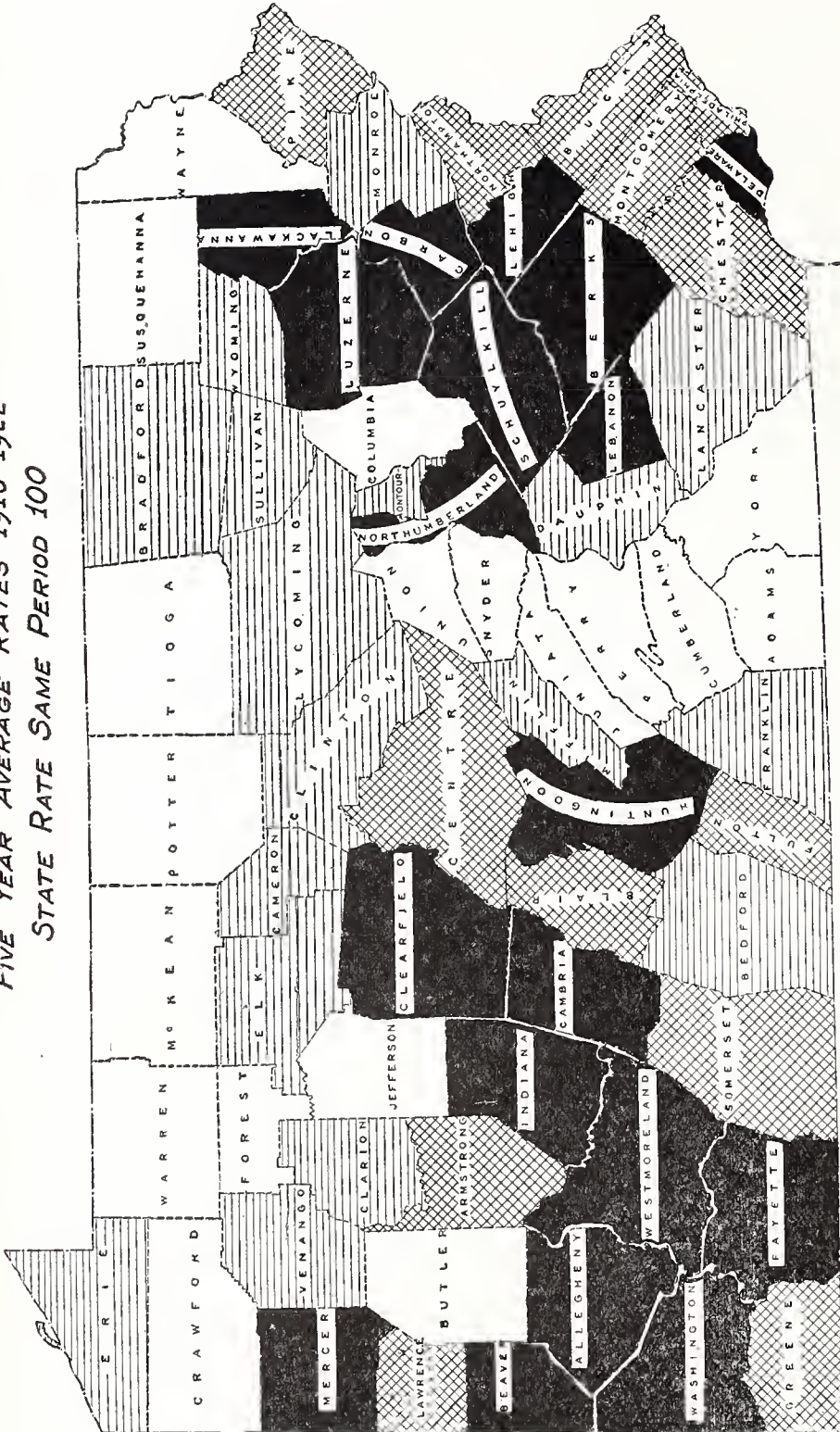
Every graphic presentation based upon arbitrary grouping has its limitation and it must not be assumed that county lines form a barrier to the conditions which place one county definitely in one group, and an adjoining county in another group. The transition from one group to another is prone to be by gradations rather than by extremes.

In every study of the causes contributing to high infant mortality rates, we are convinced that there are definite factors involving the social and economic status of communities, which are influential in determining these rates.

To ascertain just how closely some of these influences correlate, charts are herewith presented showing average infant mortality rates for a five-year period by counties, birth rates by counties for the year 1922, the distribution of foreign population, and illiteracy as defined by the Census of 1920.

If we should remove the captions from these charts and consider them from a purely regional standpoint, we would receive the impression that they all relate very closely to the same subject. While they do not by any means embrace all the influences which contribute to high infant mortality, they are rather convincing that a high proportion of aliens with high birth rate and a high percentage of illiteracy are closely associated therewith.

INFANT MORTALITY IN PENNSYLVANIA BY COUNTIES
FIVE YEAR AVERAGE RATES 1918-1922
STATE RATE SAME PERIOD 100



LEGEND:

Rates over 100

001 of 06

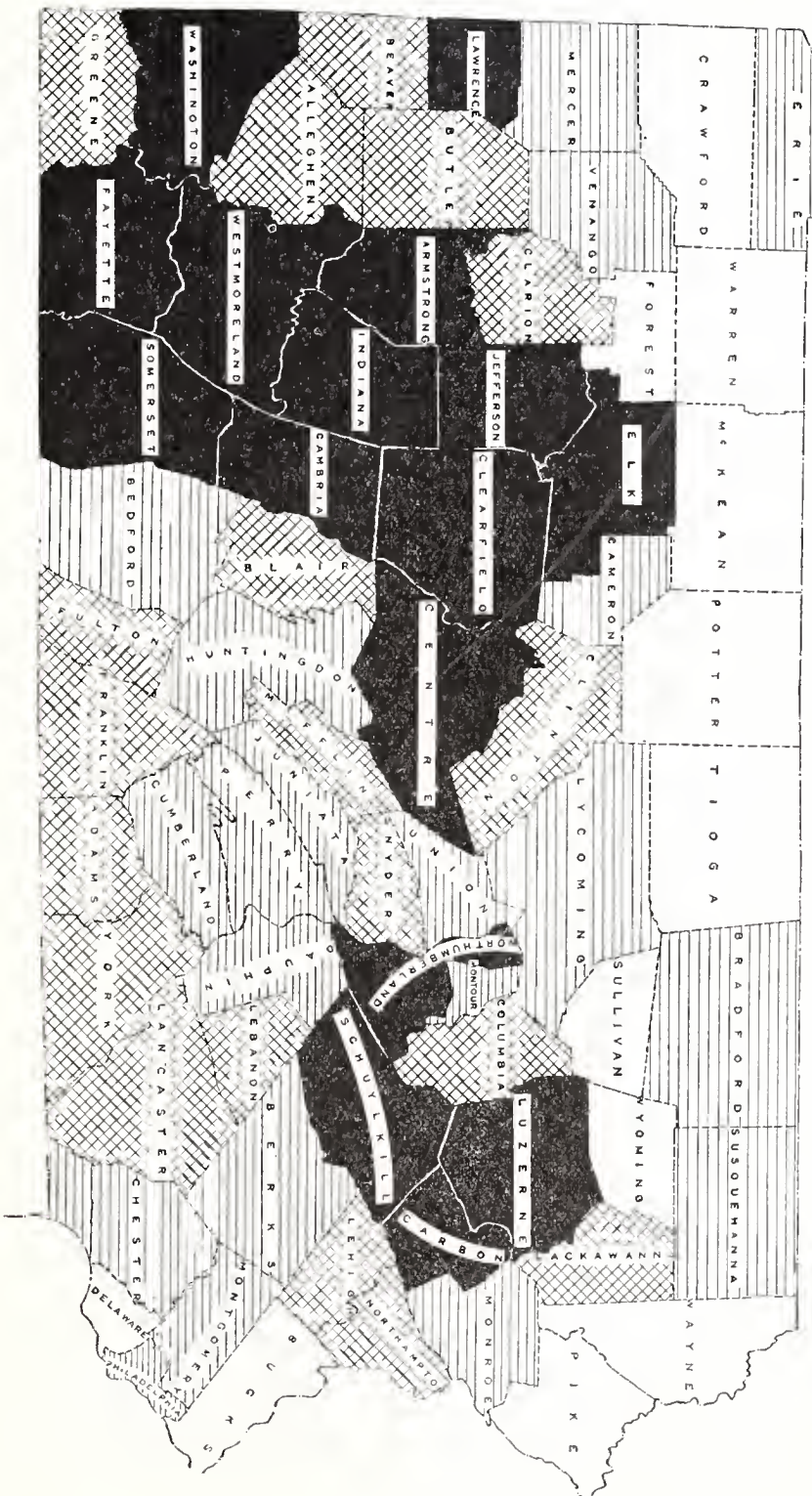
06 of 08

Under 80

BIRTH RATES IN PENNSYLVANIA 1922

BY COUNTIES

STATE RATE 23.8



LEGEND

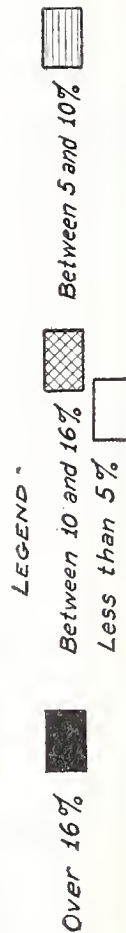
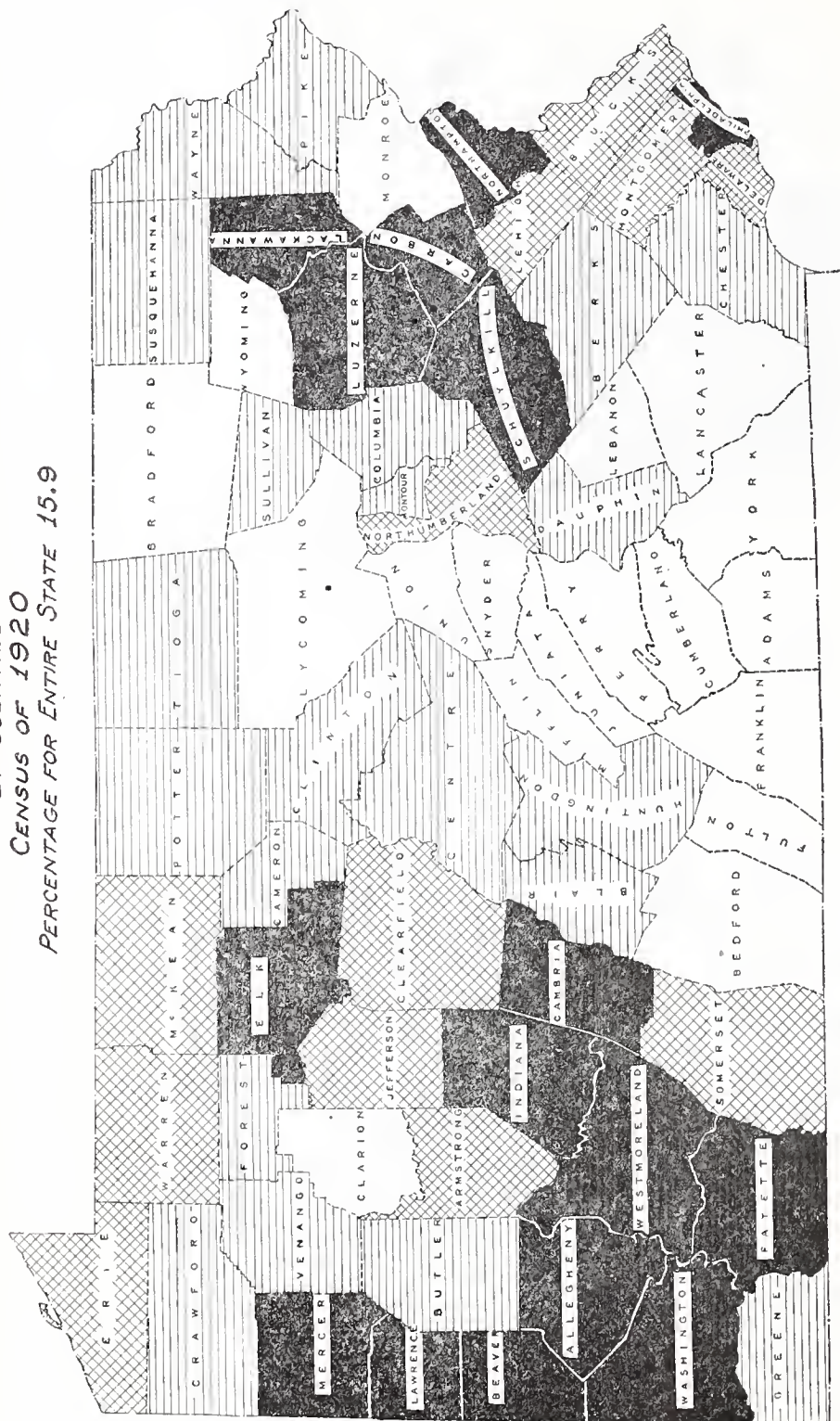
Rates over 27

Between 24 and 27

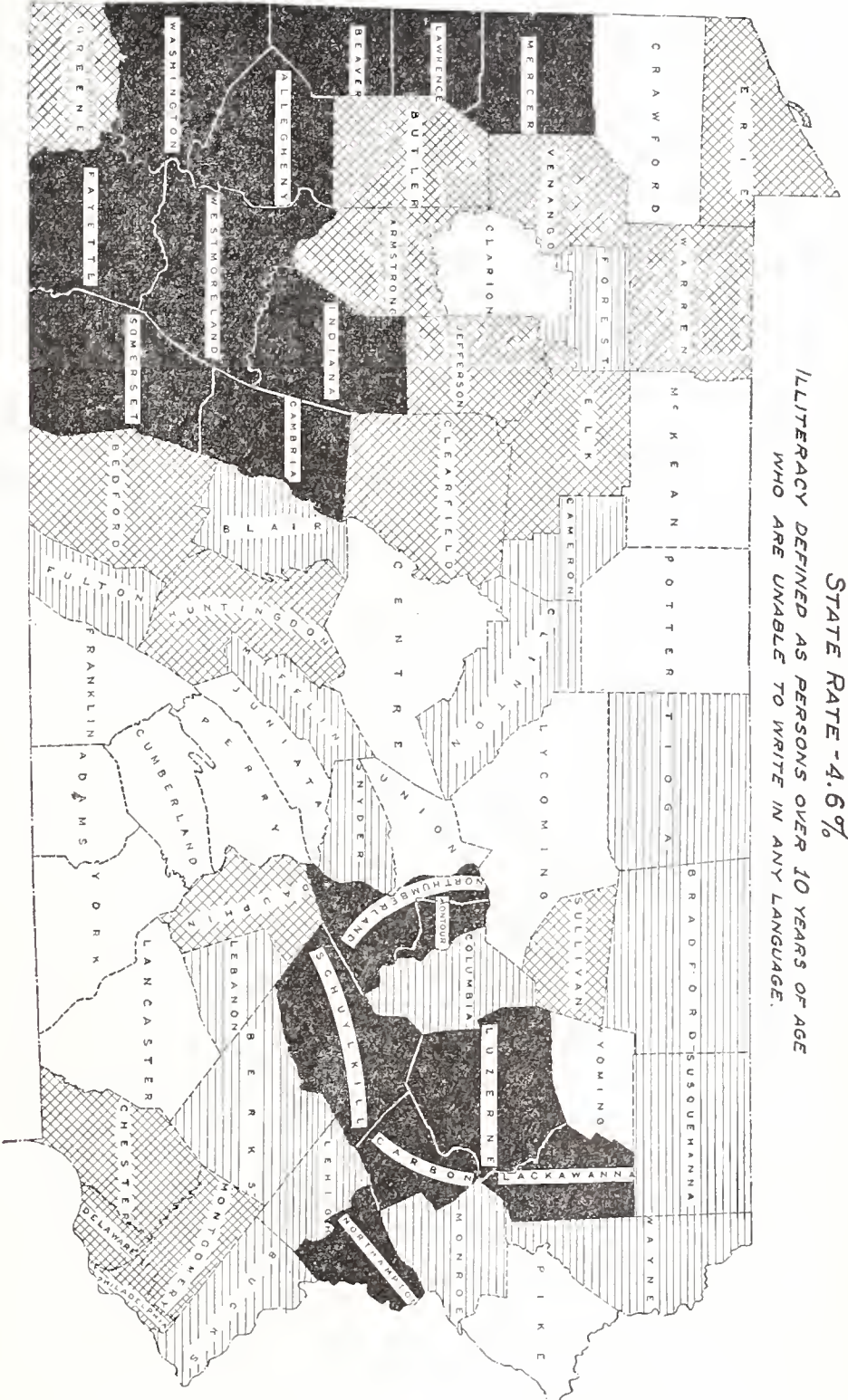
Between 21 and 24

Under 21

DISTRIBUTION OF FOREIGN BORN POPULATION IN PENNSYLVANIA
BY COUNTIES
CENSUS OF 1920
PERCENTAGE FOR ENTIRE STATE 15.9



ILLITERACY IN PENNSYLVANIA BY COUNTIES
CENSUS OF 1920
STATE RATE -4.6%
ILLITERACY DEFINED AS PERSONS OVER 10 YEARS OF AGE
WHO ARE UNABLE TO WRITE IN ANY LANGUAGE.



RATES OVER 4.6%

BETWEEN 3 AND 4.6%

BETWEEN 2 AND 3 %

LESS THAN 2%

FOREIGN HEALTH OFFICERS IN PENNSYLVANIA

The Department of Health was signally honored by the Health Section of the League of Nations in that a delegation of foreign experts was recently sent to Pennsylvania for the purpose of making an intensive and detailed study of the organization, functions and activities of the State Health Program.

The group contained fourteen representatives of as many countries, of which the following were allotted to Pennsylvania: Dr Thomas Carnwath, Ministry of Health, London, England; Dr. Amarillo Vasconcellos of the Brazil Department of Health, Rio de Janiero; Dr. Norbert Enschede, Chief of the Hygiene Service, Brussels, Belgium; M. Wladimir Voeykoff, Director of Sanitary Engineering, Moscow, Russia; Dr. F. Bussiere of Montlucon, France; Dr. Nichlos Prigos, Director, State Bacteriological Laboratories, Athens, Greece and Dr. Norman V. Lothian, Field Epidemiologist, Health Section, League of Nations, Geneva, Switzerland.

Prior to their visit to Harrisburg, they studied diseases peculiar to our Southern Section in the State of Alabama and concluded their experiences in this country, after a month's visit in Pennsylvania, with a two weeks' investigation in New York City.

The Secretary of Health, Dr. Charles H. Miner, arranged a program for the group which comprehensively covered the various phases of office duties and field activities of the organization of the State Department of Health.

Each Bureau was given a stated period to explain its work and notes were taken by the distinguished visitors, all of whom understood English.

The outside demonstrations included a visit to the Child Health Clinic at the Community House, Lebanon; an inspection of the Lebanon Sewage Treatment works; a survey of Harrisburg's filtration works and the new public comfort stations; an inspection of the Pennsylvania Milk Products Pasteurizing Plant; a visit by automobile to the State Sanatoria at Mont Alto and Cresson; an inspection of the quarantine station for venereally diseased public health menaces located in the House of Good Shepherd, Reading; an attendance upon the State G-U Clinic in the Homeopathic Hospital, Reading; a demonstration of educational methods including moving and still pictures in charge of the Bureau of Public Health Education at the Majestic Theatre, Harrisburg; an inspection of the Gilliland Biological Laboratories and stables at Marietta; a visit to the Lancaster stock yards; a journey to the Philips' stock farms, Pomeroy; an inspection of the methods employed at the University of Pennsylvania Veterinary School with respect to communicable diseases in animals; and a demonstration at the State Laboratories of the University of Pennsylvania.

The visit to the Lancaster stock yards, as well as the trip to the Pennsylvania Veterinary School, was under the direction of the State Livestock Sanitary Board.

In addition to the work of the State Department of Health, Dr. Miner arranged for lectures by the Secretary of Public Welfare, Dr. Ellen Potter, and by the Secretary of Labor and Industry, Mr. Royal Meeker. These conferences were arranged to demonstrate the correlation of these two Departments with the Health Department.

The program as above outlined consumed ten days and was concluded by an attendance upon the Penn-State football game as guests of the University of Pennsylvania, the University having placed a box decorated with American flags at the disposal of the foreign health visitors and the Secretary of Health.

The following ten days were spent by the delegation in the city and vicinity of Allentown. Dr. Miner chose Allentown as an ideal demonstrating center, indicative of progressive health and sanitary measures in an average community. This work was under the direction of County Medical Director, Dr. J. T. Butz, who also is the Allentown City Health Officer.

The demonstrations in Harrisburg and Allentown were based upon a request of the United States Public Health Service, which outlined the general program for all the delegates, placing upon the Pennsylvania Department of Health the obligation of not only indicating its own work, but its application in a third class municipality.

In addition to the work actually done by the staff of the Department of Health, both at the home office and in the field, a clear, concise and comprehensive outline of the work being done by the various bureaus and divisions was prepared by their respective heads.

Letters of appreciation received from the visitors, as well as from the United States Public Health Service and the League of Nations, seem to indicate, that the work as outlined by the Secretary of Health was of great interest to them and promises to be of value in assisting to solve similar problems in their respective countries.

TYPHOID REDUCTION IN PENNSYLVANIA

by

J. Moore Campbell, M. D.

The reduction in typhoid fever in Pennsylvania from a death rate of 54+ per 100,000 population in 1906 to 4+ per 100,000 in 1922 has been largely brought about by the installation of good pure water supplies for large groups of population, such as our cities, and by proper sewage disposal. With one exception there has not been an outbreak of typhoid fever in Pennsylvania chargeable to a public water supply, over which the State Department of Health has direct supervision, for three years or more.

The present typhoid problem in the state may be divided into at least four sub-problems. The first is the unsanitary condition often existing in small industrial villages, more particularly those concerned with the mining of coal—the “company owned” town inhabited by ignorant and careless foreign labor, employed by the com-

pany and dependent upon water supplies, which are never good and frequently bad. Such conditions particularly pertain to the soft coal regions in the southwestern part of the state, including Armstrong County.

The second phase has to do with the triangular belt of limestone formation, which appears as a wedge with the apex in Lehigh County and base along the Maryland line, extending from the western boundary of Franklin County eastward to practically the center of the south boundary of Chester County. The counties included in this wedge persistently exceed the typhoid morbidity rate of the state at large.

Franklin County is the heaviest sufferer. Any attempt to influence the typhoid fever rate in these counties must take into consideration the interruption of infectious material, which emanates from cess-pools and outhouses, and is carried by way of larger or smaller subterranean fissures and streams later appearing as springs used for domestic water supply, or wells which tap these fissures.

Since chlorination of these water supplies, or their sterilization by other means, is not practicable, the alternative is the prevention of the entrance of infectious material to the underground waters by building water-tight sewage receptacles, the contents of which can be removed and buried after thorough disinfection.

Milk as a conveyor of typhoid infection offers the third angle of the problem. During three years past there have been a dozen milk epidemics responsible for approximately 500 cases of typhoid fever. As compared with the total number of cases (almost 8500 cases) reported during the same three year period, the number of milk borne cases is relatively insignificant, but is in no sense negligible.

Milk epidemics may be looked upon, in a sense, as the result of accident over which the health authorities can have little control. For example, the employing by dairymen of an unlisted typhoid carrier; or the occurrence of a case of typhoid fever on the dairyman's premises, which is diagnosed late and occasionally not at all.

This interval of ignorance on the part of health authorities, as to what is going on at the dairyfarm, is one of definite hazard to the consumers of milk supply from this place. The milk borne outbreaks, due to cases such as outlined, could have been prevented by the pasteurization of milk designed for public consumption.

Finally the Department's typhoid fever problem is concerned with the great number of isolated cases of typhoid fever, with respect to which, it is extremely difficult to determine the source of infection. The total of these cases each year far exceeds the number of those which occur in epidemics and offer that portion of the problem, which is most difficult of solution.

The unknown carrier is responsible for many of these, and a means of identifying carriers will assist materially in the reduction of this group of cases. General improvement in rural sanitation will also affect them and, of equal importance, is the education of the laity in the dangers of drinking promiscuously from springs, wells and even creeks of unknown quality.

DIPHTHERIA ANTITOXIN

Roy G. Miller, Chief,

Division of Supplies.

40% of all children ill of Diphtheria die if untreated with antitoxin. 7% die if antitoxin is administered, regardless of the duration of the disease, and less than 2% die if treatment be given within thirty-six hours of the onset.

The most fatal type is that in which the characteristic white spots of membrane cannot be seen; when it is in the larynx or the post nasal region. In these cases there is often delay in giving antitoxin.

The earlier antitoxin is given the more certain and rapid is its effect. Whenever diphtheria is suspected, the maximum dose should be administered at once; the same good results cannot be expected from repeated small injections.

The State Department of Health supplies Diphtheria Antitoxin free to all citizens, exclusive of the cities of Philadelphia and Pittsburgh. State antitoxin is deposited for distribution in selected drug stores, located within easy reach of every physician in Pennsylvania.

Each station is supplied with an initial stock of antitoxin in 1000, 5000, 10,000 and 20,000 unit syringes, for subcutaneous or intramuscular injections, and 5000 unit doses for intravenous use in syringes and gravity injection outfits.

A physician having a patient suffering from diphtheria goes to his nearest distributor and secures all the antitoxin needed for the case (in curative or immunizing doses), by signing the application and receipt, on which is given the name and address of patient, the laboratory number and size packages dispensed. The distributor, after certifying the receipt, mails it to the Harrisburg office, whereupon the Division of Supplies replaces the antitoxin used.

The standardization of antitoxin is a definite and accurately controlled procedure and its potency, as expressed in antitoxic units, is a certain guide to the physicians in determining dosage. Research effort has resulted in increasing the concentration of antitoxin by reducing the bulk of the therapeutic dose. The smaller quantity is easier to inject and less painful to the patient.

To safeguard the potency of State Label Antitoxin, every lot contains 30% excess units at the date of issue. Four rigid tests for potency and sterility are made in the State Laboratory of every lot issued.

The reduction of the morbidity of diphtheria can best be effected by passive immunization of contacts and active immunization by the use of Toxin-antitoxin to those who show a positive Schick test.

During the first six months of the fiscal year dating from June 1 to December 1, 1923, the Pennsylvania Department of Health distributed free:

12,767 —	1000	Unit	Syringes	Diphtheria	Antitoxin
5,350 —	5000	"	"	"	"
9,652 —	10000	"	"	"	"
3,645 —	20000	"	"	"	"
3,221 —	1500	Unit	Packages	Tetanus	Antitoxin
1,538 —	Smallpox Vaccine — 5 tube cases				

Total Cost \$24,892.97

During the Diphtheria Immunization Campaign for the same period of time, 36,051 parental consent certificates were received for children of preschool age and 108,153 ampules of Toxin-antitoxin supplied.

Total Cost \$10,815.30

178 packages of Schick Test (50 tests to package) were distributed.

Total Cost \$53.40

In addition to the Toxin-antitoxin supplied free, the Department received from Boards of Health and School Districts 13,304 requests for individuals over six years of age and supplied 42,475 ampules of Toxin-antitoxin at State rates.

EXTRACT FROM ANNUAL REPORT OF LOWER MERION TOWNSHIP BOARD OF HEALTH

The Board of Health of Lower Merion Township rendered a most excellent detailed report of its health activities during the year 1923.

1558 cases of communicable disease occurred in the township during the year. This was more than any year since 1907, excepting the year of the influenza epidemic. 979 were cases of measles, 800 of which were reported between January and April. There were 33 cases of diphtheria, 19 of pneumonia, 90 of scarlet fever and 8 cases of typhoid fever.

There were only 5 deaths in the township during the year, one each from diphtheria, measles, pneumonia, typhoid fever and whooping cough. The average annual number of deaths for the past 16 years has been 17. The highest number in any year was 38 in 1918, the year of the influenza epidemic.

Milk Control

The milk control is directed by a committee composed of a representative from the Boards of Health of Haverford, Narberth and Lower Merion. While the committee directs the work, all matters are referred to their respective Boards for approval. The milk control work of these three Boards as carried on by the milk control officer, Dr. G. W. Grim, has attracted the attention and exercised material influence over the prospective milk legislation in 14 neighboring municipalities, including the city of Philadelphia.

The annual consumption of milk by the inhabitants of the township for the year 1923 is estimated at 800,000 gallons. A portion of the product of 6 certified dairies, 21 inspected raw dairies and 3127 unclassified dairies is sold as pasteurized milk by 8 pasteurization plants, 2 of which are located in the township. There are 340 dairy cows owned by residents of the township and maintained exclusively for the purpose of furnishing milk and dairy products for private consumption. 55 dealers and 26 producers have registered during the year. 34 of the 55 dealers' licenses were held by retail stores.

At the time of adoption of the MILK regulations, some anxiety was expressed lest their enforcement might eliminate a considerable number of our local producers delivering milk to the consumer from the farm direct. In this connection it is interesting to show to what extent this has occurred. In 1921 there were ten dairies in the township producing milk and delivering it to the consumer direct in the raw state. Four of these producers maintained untested herds which were later found by test to be tuberculous. There were no regular medical examinations of dairy employees. Since 1921 five of the ten producers have retired as retail distributors, four by reason of improperly qualifying and one for other causes. Five other producers have taken their place, so to date we have the same number of local resident producers distributing raw milk to the consumer direct. The milking herds are free from tuberculosis; the dairy employees undergo regular medical examination and the dairy is subjected to rigid sanitary inspection.

In addition to the ten resident inspected raw dairies, there are eleven inspected raw dairies located outside the township. At these dairies the same supervision over milk production and subsequent handling is maintained. No employee is permitted to handle raw milk unless qualified and in possession of a Health Certificate issued by the Health Board.

Seventeen cases were brought before a Justice of the Peace in Lower Merion Township during 1923: nine for the sale of old milk, five for the sale of milk containing visible dirt, two for misbranding and one for the sale of milk produced from cows not tested for tuberculosis. In seven cases the defendants were retail stores and in ten cases, dealers operating milk routes in the township.

Complete sampling of milk sold in stores has been carried on this year for the first time. Milk sold in stores is much more likely to be tampered with, held beyond the legal sale period or cream removed, etc., than when sold by the producer.

Bovine tuberculosis is being eliminated from the township with amazing rapidity.

It would be impossible to control the production and distribution of milk without accurate laboratory check.

The Health Officer, Marvin E. Reynolds, has travelled 11,402 miles in his automobile and has disinfected 1,661 rooms in occupied houses and 174 in vacant houses. The goods to be sold in 28 rummage sales were fumigated before being offered to the public. Private and public schools were disinfected as required.

All restaurants and public eating places were inspected each month and a medical examination of all employers or employees of such places was made semi-annually by physicians under general supervision of the Health Officer.

Stores selling food were inspected and the regulations for the display of fruit and vegetables enforced.

All piggeries in the township were inspected each month.

In June a special deputy was employed for one month to assist the Main Line Citizens' Association in a special anti-fly campaign.

We note with pleasure the spirit of increasing co-operation with the Board on the part of the State Department of Health and medical organizations.

PENNSYLVANIA STATE DEPARTMENT OF HEALTH.

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Charles H. Miner, M. D.

Deputy Secretary of Health

W. G. Turnbull, M. D.

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ISSUED MONTHLY

By The Pennsylvania Department of Health

VOL. II.

MARCH, 1924

No. 12

<i>Clean Up Week</i>	<i>1-2</i>
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<i>Pennsylvania's Fly Campaign</i>	<i>20</i>

The Health Gnome Says



Spring is here, it's clean up time—
Get out your white-wash brush and lime,
Soap and water, broom and mop,
Clean your house from bottom to top.
Scour your garbage can with lye,
And shatter the dreams of the pesky fly.
Clean the windows, scrub the floor,
Dump the trash out the kitchen door—
Papers and rags and worn out shoes,
And odds and ends no one can use,
And the things you wish you never had bought,
Burn them up in the back yard lot.
Then flies and mice and rats and fleas,
And all the bugs that bring disease,
Will pack their duds and leave your shack;
And it's your own fault if they come back.

The Listening Post

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Act of October 3, 1917, authorized April 6, 1923."

CLEAN UP WEEK

The State Department of Health, Forest and Waters and Fire Protection of State Police ask cities, boroughs, communities and individuals of Pennsylvania to observe the week beginning April 14th as general clean up week.

A date earlier than April 1st would not be practical, because in many parts of the State custom has established April 1st as moving day. A date later than the third week of April is not advisable, because fly breeding places should be done away with before the first spring flies are ready to deposit their eggs.

Clean up week as conducted this year will combine health protection, fire protection and forest protection.

On Sunday, April 13th, clergymen of all denominations are asked to refer to clean up week, its object and results, at their regular services.

The Departments of Health, Police and Forest and Waters, suggest the following programme for the week:

MONDAY—STREET AND ALLEY DAY

Clean the streets and sidewalks, clear the gutters, open ditches, flush sewers, etc.

TUESDAY—FORESTRY DAY

Clear away dead growths and underbrush, clean lawns and gardens, repair fences, whitewash, straighten tree boxes, etc.

WEDNESDAY—FLY AND MOSQUITO DAY

Clean and lime cesspools, make outhouses fly proof, clean stables, sprinkle floors with borax, clean stable yards, pig pens and chicken coops. Fill water holes, mend sagging spouting, scour garbage cans, see that lids are fly tight.

THURSDAY—JUNK DAY

Remove trash, junk and other fire breeding material—old books, papers, clothes, rags, etc.—general rubbish, such as bottles, cans, ashes. Clean and whitewash cellars. Clean the attic.

FRIDAY—TRUCK DAY

Trucks or wagons should be provided to haul away refuse.

SATURDAY—PUT IN ORDER DAY

Finish anything which may have been omitted.

The above programme is merely suggestive. It may be varied to suit local convenience, but neither this nor any other programme can be carried out without organization.

Call a meeting and start the ball. Numbers of strangers motor through your town each day. They notice it and remark about it; whether they remember your town, because it looked so well kept, or whether they can't forget it, because it was so unsightly, depends upon you.

MEETING OF THE MUNICIPAL MILK INSPECTORS OF PENNSYLVANIA.

The Municipal Milk Inspectors' Conference held at the State Capitol, January 23rd and 24th, was largely attended. Following is an abstract of the transactions:

Charles H. Miner, M. D., Secretary of Health.

The function of the Department of Health is to prevent disease, to propagate health and to give every man, woman and child in the State of Pennsylvania an even chance for a happy, healthy, successful life. We are interested naturally in milk and are working for a safe milk supply and the use of more milk. So long as there is danger that disease may be transmitted from the herd to the consumer or from the milk handlers to the consumers, we cannot consider that we have a safe milk supply.

The study of the vitamins and especially those relating to "Fat Soluble A" have proven that milk is the most important food we can obtain.

We must have a safe milk supply. We know that tuberculosis is often transmitted from the herd to the people. We also know that a number of other diseases is transmitted to the consumer by the milk handler although without his knowledge. At least five hundred of the cases of typhoid fever, which occurred in the State during the past year, were due to milk, infected by milk handlers suffering from typhoid or by typhoid carriers. Scarlet fever, diphtheria and infantile diarrhoea may also be charged to the same account.

Milk may be the most dangerous food as well as the most important. It is one of the best culture media for bacteria, so that we have to consider the importance of the care of the milk after it leaves

the dairyman and gets into the home, because a few bacteria in the milk, if it be kept in a warm place, will produce thousands in a few hours.

Raw milk for human consumption must be obtained from cows determined to be free from disease by tests, conducted in accordance with the rules and regulations of the Bureau of Animal Industry.

Each municipality of Pennsylvania has the right to make milk regulations necessary to enforce State regulations and to provide such local regulations as may be deemed essential to protect the milk consumer. Many municipalities have requested advice, and a model milk ordinance setting forth general regulations has been prepared for their assistance.

Frank P. Willits, Secretary of Agriculture.

If we insist that the public buy more milk, we must insist that the producers provide better milk. Therefore, we fully agree with your work in protecting the public milk supply. One of the great troubles with our work all along the line of dairying has been that we went at the work too much in a haphazard way. We have come to the point where we must improve our farm conditions and products and see that they are properly marketed.

We have finished tuberculin testing Mercer County, Crawford County and Jefferson County on an area basis, excepting two townships in Jefferson County, which are not completed on account of bad roads.

It is not possible to enforce an ordinance which requires tuberculin testing to be done at once, because of lack of funds to pay the indemnity. The farmer would either be selling his milk against the ordinance as created, or the people would do without milk. The policy of the Department of Agriculture is to go slowly and do the work right.

James Foust, Director of Bureau of Foods.

Twenty-four years ago ninety percent of the milk distributed throughout Pennsylvania was in bulk and about ten percent in bottles. Now ninety percent of the milk distributed for domestic use is in bottles.

The City of Erie has close supervision over the distribution of milk. It is due to the attention given the milk question by Dr. J. W. Wright, City Health Officer. Their man in charge of milk supervision is practical and knows his subject. They keep tabs on distributors and producers as well. We cooperate with them and institute proceedings where the laws are violated.

There is plenty to do yet and we feel that the local health departments should strengthen their local organization, particularly concerning milk sold in hotels, restaurants and lunch rooms. No organization is vested with more power than the local Health Board.

We have been having trouble in Oil City. There are good grounds for complaints concerning dirty bottles and foreign substances in the milk. The same is true in many other places. It seems to me a meeting like this should bring the local Health Department and the State Department of Health closer together. There should be ordinances passed by the borough Council vesting the local Board of Health with authority to make rules and regulations to protect the public milk supply. Clean up dirty wagons, bottling establishments and the inside of milk plants. Any time you have reason to believe the milk is being tampered with, or looks suspicious, please write me a letter. That supervision belongs to the Bureau of Foods. I shall be glad to send a man without any expense to your Department and have samples collected in the regular way and analyzed by our official chemists. I look after the watering and skimming of milk and the use of chemicals in milk. Only about one-third of the cities and boroughs throughout this State has proper ordinances and regulations with reference to the distribution of milk in their localities. I want to urge that you have ordinances passed and I offer the fullest cooperation if you feel that the milk is adulterated in any way by the adding of water, drugs or chemicals. In the year 1923 we bought between four and five thousand samples of milk and cream at different times, and we had about three or four hundred prosecutions. We did not find a preservative in a single sample.

When I was Chief of Police in Altoona, a man in the ward in which I lived, a friend of mine, was in the milk business. I went into his milk depot and obtained a sample of milk and a sample of cream. He asked me not to turn over that milk and cream. Our chemist from Pittsburgh was in Altoona analyzing the samples collected. I told the chemist about the request. He said he found formaldehyde in both the milk and the cream. The dealer was arrested. The Judge sentenced him to twenty days in jail and \$50.00 fine and costs, stating that any more dairymen convicted of adulterating milk would go to jail. My friend never spoke to me again. We don't care for anybody; we are enforcing the laws. Call on us whenever you think your milk needs to be tested for fats or preservatives. May I again appeal to you to get ordinances passed so that you will have rules and regulations to enforce a supervision of milk depots, wagons, cans, bottles, etc.?

Dr. Gimper.

A few years ago milk was brought into Williamsport by a man living in the country. He sold milk from cans. The cans were filled and placed on his wagon before he ate breakfast. His little sister, who was generally known not to be very cleanly, came out to his wagon and put her hands into the milk, while obtaining milk for use in their home.

There was no legislation against this. This illustrates the necessity for supervision of milk from the time it leaves the farm until delivery to the consumer.

A dairyman outside of Erie distributed milk in the City of Erie labelled as certified milk. He was not complying with any of the

regulations for certified milk. Two of the cows in his dairy were tuberculous. One died of generalized tuberculosis. The other, when killed, was found in the same condition.

Physicians were recommending this milk for baby feeding on account of the label on the bottle. There is only one municipality in the State and that is Philadelphia that has any legislation to govern the distributing of certified milk. Anyone can put a certified cap on a bottle of milk and sell it in any other municipality.

Dr. Klein.

The production of certified milk is under the supervision of the American Association of Medical Milk Commissioners. This organization has adopted a set of standards and methods to govern the production of certified milk. They provide that, when certified milk is to be produced, a medical milk commission shall be organized from members of the medical profession who must serve without salary. They must employ certain experts. They are to engage a medical man to examine the employees, a bacteriologist to make bacterial counts of the milk, a chemist to make a chemical analysis, a veterinarian to make a tuberculin test and the physical examination of the cows and a sanitary inspection. Any two of these functions may be taken on by the same man if he is competent. They provide various regulations in regard to the construction of dairy houses, stables, etc. The unwarranted use of the word "Certified" has caused much concern. A clause could be inserted in municipal milk regulations specifying that certified milk shall be milk produced under the supervision of a medical milk commission which is affiliated with the national organization. The Association of Medical Milk Commissioners has had the name copyrighted and can prosecute anyone who uses the term without their sanction. If you have difficulty over the unwarranted use of the term, Dr. R. R. Ferguson, 4175 Irving Boulevard, Chicago, will take up the case.

Mr. White read from the Milk Ordinance recommended by the State Department of Health as follows:

"Certified Milk" means the product of dairies operated in accordance with the "Methods and Standards for the Production and Distribution of Certified Milk" last adopted by The American Association of Medical Milk Commissions, and the production and handling of which shall be certified to by a milk commission instituted in compliance therewith.

Over fifty municipalities have adopted ordinances containing this regulation.

Mr. Foust.

Beaver Falls' Health Officer has just told me that milk distributors go along the street and set down a filled bottle, take up the empty bottle and, without washing and sterilizing, fill it in his wagon and deliver it to the next house. These practices are carried on elsewhere. Something must be done to stop the insanitary way milk is distributed in bottles. An ordinance would correct this.

Mr. Goshorn.

Milkmen in Scottdale distributed raw milk in bottles capped and labelled "pasteurized." Eleven of these men were arrested. Sometimes money would be found in the bottles to pay for the milk. We have stopped all that in Scottdale.

Mr. Irwin.

We should remember that the laws referred to by Mr. Foust give minimum requirements. The City of Williamsport passed an ordinance allowing the sale of 3 percent milk. The State Department of Health advised against such a regulation. Later agents from Mr. Foust's office entered Williamsport, collected samples and arrested two milk distributors for selling milk below 3.25%. These men paid their fine but contended that such action was unjust. The city erred in making local laws contrary to State law.

Mr. McDonald.

Are milk houses allowed to be in barns?

Mr. Irwin.

We have not made any regulation regarding milk houses. A State ruling regulating milk houses, etc., would mean a vast inspection for which we are not ready. The dairymen are organizing to carry on a part of this work. On the other hand we realize that the milk house does not assure safe or clean milk. The Health Department, either State or Municipal, must confine itself to public health work.

Dr. T. E. Munce, State Veterinarian.

The cattle population of Pennsylvania numbers approximately 1,469,607. Of this number 88% are dairy and breeding cattle. Approximately 159,000 or 11% are tuberculous. The distribution of the disease ranges in the 67 counties from 1% to 30%, being prevalent adjacent to the larger centers of population.

Health authorities recognize the importance of bovine tuberculosis in relation to the control of this disease in the human family.

Any plan for the repression of tuberculosis in humans must necessarily include an active campaign to eradicate tuberculosis from the dairy herds furnishing the public milk supply.

All cattle for dairy and breeding purposes imported into Pennsylvania are required to be examined and tuberculin tested. Pennsylvania imports each year approximately twenty-five thousand (25,000) cattle for dairy and breeding purposes which are tested at their point of origin or consigned to one of the three designated public stock yards. At these points testing stations are maintained. The same personnel at these yards examine animals physically to determine whether or not they are affected with transmissible or communicable diseases.

The tuberculin test from the State's standpoint is entirely voluntary on the part of the owners. There are two plans available for those who desire to have their cattle examined and tuberculin tested. They are the unofficial and the official plans. By the unofficial plan the owner employs a veterinarian to test one or more animals or his entire herd. Condemned animals are quarantined and milk from such animals is required to be adequately pasteurized before being used for any purpose. The State does not indemnify owners for cattle condemned under the unofficial plan. Owners are not obligated to clean and disinfect their premises, to correct faulty sanitation or to conduct subsequent tests on their herds. There were 14,870 herds tested in 1923 by this method.

The official plan is a co-operative arrangement which the owner enters by signing an agreement with the Federal and State Bureaus of Animal Industry. It is better known as the Accredited Herd Plan, and its requirements are uniform throughout the forty-eight (48) States.

Under supervision of the Bureau of Animal Industry, there were tuberculin tested 12,674 herds comprising 122,066 cattle in the year 1923. Of this number 7,843 were condemned and slaughtered. The diseased animals were found on 591 farms; the extent of infection of the cattle tested under the Accredited Herd Plan in 1923 approximating 7%—a decrease of 3% as compared with the infection found in animals tested under the Accredited Herd Plan in 1922.

Pennsylvania has 2,074 herds comprising 37,528 animals fully accredited. Some of these herds have received three, four, five and even six certificates. Cattle from such herds are entitled to be moved anywhere without further examination. The above-described method of testing under the Accredited Plan takes care of the individual owner.

MODIFIED ACCREDITED AREA PLAN

The Accredited Plan also provides for the examining and tuberculin testing of all the cattle within a designated area. This method is known as the Modified Accredited Area Plan of testing. The Plan provides that after an area is agreed upon by the co-operating agencies within the designated area and the Federal and State Governments, the entire cattle population is then tuberculin tested. Before such an area can be tested, however, 90% or more of the herd owners must have signed applications for the test, and the co-operating agencies within must lend some financial assistance. If as the result of the tuberculin test less than one-half of one percent of the cattle is found tuberculous, the area is then declared officially a "Modified Accredited Area." It remains in this status for a period of three years and the owners enjoy the same privileges accompanying an individually accredited herd.

The Bureau of Animal Industry derives its funds from the licensing of dogs in the Commonwealth, exclusive of first and second class cities (Philadelphia, Pittsburgh and Scranton). The funds thus derived are used for maintenance and indemnity purposes, but not

until the expenses incident to enforcing the law are first taken out. This includes payment of claims through damages done by dogs to livestock and poultry. Last year there were 405,000 dogs licensed in the State. This is 100,000 more than were licensed in the year 1922. Yet with this large number of dogs licensed, we believe there are still 100,000 unlicensed dogs.

SANITATION

Sanitation plays a large part in disease prevention, control and eradication work and it has a two-fold purpose. First, it will afford protection to the health of the animal in a herd and improve its opportunities to develop. Secondly, its relation to public health. Generally speaking, sanitary conditions on premises where herds are in the process of eradicating transmissible diseases are fairly good. There is, however, twelve to fifteen percent where the sanitation is bad. It is not a good business policy to spend money and time endeavoring to eliminate tuberculosis or any other disease of animals, where the sanitation is such as to make it a practical impossibility to maintain healthy animals.

We cannot look forward to maintaining healthy herds on dirty premises any more than you would expect the production of clean, wholesome milk under like conditions. I am of the opinion that it is the duty of the producers of milk, as well as of health officers, to bring about the necessary correction of insanitary conditions. There are places on which the sanitation is such that the delivery of milk has been stopped by one municipality only to be delivered to some other. We have spent considerable time and thought as to how these conditions can be coped with. The dairy interests who are producing a good, wholesome product are permitting the dirty dairyman to compete with them on the open market. Therefore, sanitation should be considered a problem of the good dairyman equally as much or more than it is our or your problem. In talking with the dairy and livestock interests, emphasize that fact. It will go a long way towards solving a condition which is not at present solved, although much of the Bureau's efforts are being directed in that line.

W. F. Davison, M. D.

President, Board of Health, Kingston, Pa.

We have a live Board of Health at Kingston. Every member is active. It comprises three physicians, two nurses and an active health officer. I feel proud of our Board of Health. I have found so many that have no "pep." When I look for them, all I find is a shadow. No pay, no work.

Did you ever stop to think of what harm or what good you can do in a community where you have baby after baby looking for his bottle every two or three hours? Calculate how much milk those babies take before they are able to do without it. And think of the school children. I wish I were able to stir up such sentiment that all the old filthy cow stables, milk houses, pails, cans and bottle washers would be relegated to the scrap heap and each town in Pennsylvania could start all over with a milk ordinance such as we have in Kingston.

You ought to see our babies. They have no bowel trouble. We physicians have forgotten, figuratively, how to treat this disease because we haven't had any cases for two years, or since the milk ordinance was put into force.

One day I saw a boy filling milk bottles. The milk had been held for thirty minutes to a temperature of 145 degrees, and everything was clean around the plant, but the boy had a sore finger, which was tied up. He picked a cap from his pocket, after another one had mis-fired and capped a bottle. I told him of the serious consequences or dangers to the health of the babies which might result from a transfer of infective material from his finger to the milk, and I don't think he will do it again. If you should find the dairyman is having trouble in getting his butter fat up to three and a quarter, go out to the farmer and get some samples of the milk. Often when they bring it in to the sub-station, you will find that they have used a little too much water. Tell them that we have a certain butter fat test and that they cannot adulterate the milk with water without being discovered. And if you find that the bottler is using a pair of cotton gloves that are dirty, ask him to remove them and to wash his hands and keep them clean. His soiled hands might harbor something that would get into the milk supply before it reaches the consumer. You may find piping which is not taken down every day and cleaned thoroughly. If so, explain the need for daily cleaning the piping.

If the farmer mixes morning and night milk together, it goes sour sometimes and the farmer loses it. See that the farmer gets a good field man to assist in getting the help educated in feeding, watering and caring for the stock. Help the dairyman but keep your eye on him, so that he keeps the sediment out of the bottle and watch for the cream line about four inches below the top. Be good to them all but be sure that we are getting richness, taste, safety, cleanliness and sweetness in our milk supply. The richness of the milk depends principally upon the breed of the cattle and the dairy which produces it. The safety of the milk or its freedom from the germs of disease depends upon the health of the cows and the people who come in contact with the milk. The *cleanliness* of the milk depends almost entirely upon the cleanliness or the condition of the coat of the cows from which the milk is drawn. The sweetness or keeping quality of the milk depends mainly upon two factors, the care with which the milk utensils are washed and dried and the care with which the milk, that remains on the farm over night, is cooled. We feel that certified milk should be pasteurized to insure absolute safety.

M. T. Phillips.

Maple Shade Farm, Pomeroy, Pa.

I have been a farmer for a good many years. In recent years I have been producing Grade A raw milk. We have an accredited herd largely on account of the breeding end of it. It is not worth while for a farmer to improve his herd unless he has a healthy herd. In order to sell raw milk such as I produce, we must start with a clean herd. The care of the milk is most important. Keep the dust down in your stables. We do not think of handling the milk until it is out of the stables.

We cool it just as quickly as we can. We ship it in cans and it is bottled in Ardmore about thirty-five miles away. In warm weather the cans are jacketed, because it is not shipped in refrigerator cars and other milk goes in the same car. To put my milk next to a farmer's milk, which is of high temperature, would bring up the temperature of my milk. The Grade A proposition is simply a matter of care. The quicker we cool the better. *Keep* the dirt out rather than try to take it out, after it is in the milk. I take it that you men inspect the milk as it is delivered in different municipalities. This gives you work every day of the year.

Only a small quantity of milk is produced by the better class of dairymen. It is the average every day farmer who is furnishing the greater quantity of milk. They do most of the work themselves and with meager equipment. The first thing to consider is the consumers of milk. Give them a product in which you have confidence. If the milk is not clean, throw it out. The Dairy Council has been a great factor in clean milk production. I am not speaking from the standpoint of a producer of Grade A milk. I feel I know a little something about the production of ordinary milk. I know what happens on farms and how the milk is neglected. The facilities are not there to handle it as it should be.

A few years ago there was an inspector in our neighborhood who did a lot of good work. An old colored man worked for me and he kept a pig. This inspector found the place. He left a note at the house that they should clean the pigsty. Neither the old man nor his wife could read or write and the pigsty, of course, was in the same condition when the inspector returned. The old darkey was over in the swamp trimming the brushes when the inspector found him. The inspector was angry and the old colored man had a hot temper. Henry thought no inspector had a right to monkey with his pigs so he went after him with the scythe. The inspector disappeared. Henry hunted me up and told his story. Then the inspector found out that neither the old man nor his wife could read or write and he saw light. The reason I mention this incident is because the inspector was angry. He was armed with authority but he didn't understand Henry. Now if you understand these men, you can handle them in a diplomatic way and tell them it is to their advantage to clean up. After that you will likely not have further trouble with them.

The producer should have the viewpoint of our customers. Satisfied customers will come back for more. The farmers have never gotten that through their heads.

For thirty years we have been working on tuberculosis eradication in this State; even then they wanted to make it obligatory to have all herds tested. I was opposed to compulsory testing. It has taken a long time but now we are ready. The thing that is holding us up is the facilities for the State and Federal Government to carry out their part of the program. If you go to the consumers of milk and tell them that all the cattle have tuberculosis, you will scare them and kill our business. The thing to do is to clean up the cattle of the State. It can be done. The time is now. I am speaking not so

much from the standpoint of a better product, although that would happen, but I am looking at it from the standpoint of the farmer who has been working with cattle.

You must have a foundation on which to build. The average cow today produces less than 4000 lbs. of milk. If we could get 6000 lbs. of milk a year out of a cow, we could make money. There is a certain, overhead expense that applies to every animal. We must know what each animal is doing and keep only those making money for us.

Dairy products furnish the very fundamentals of health. Dr. Miner's ruling has not been opposed in any way. The thinking farmers never raised a hand to prevent this forward movement. Tuberculosis has spread to our chickens and hogs, and it is up to us all to get back of this plan.

W. A. Snyder, V. M. D.

Milk and Meat Inspector, Allentown, Pa.

The term sterilization may be defined as the process whereby materials, apparatus, containers, etc., are entirely freed from living organisms. Sterilization may be accomplished by either physical or chemical means. Chemical means is usually referred to as disinfection, but in practice it is seldom resorted to. In the laboratory the physical process is usually employed and is the most practical. It is the purpose of this paper to dwell only on the practical side and the physical methods of bacterial destruction as pertaining to dairy equipment. These may be enumerated briefly, as heat application and gas in solution.

By heat is meant high temperature sterilization that may be considered in two divisions, dry and moist heat; and of these moist heat, such as live steam and hot water at or just below the boiling point, is the most practical and the most applicable of methods used for bacterial destruction on milk apparatus and utensils.

It was discovered many years ago that the greater amount of water present with proteids, the less the temperature required to coagulate them. Since the make-up of a bacterial cell is somewhere near 80 to 85 percent water and the balance chiefly proteids, one can understand that if heat be applied, the cell's protoplasm will coagulate, destroying its life. If moist heat, such as live steam or hot water, is the medium used, life will probably be destroyed more quickly because of the additional absorption of water by the cell, thus increasing somewhat the original percentage of water content of the cell. Of the two methods, live steam is preferable to hot water for sterilization.

You have probably noted the air bubbles along the coil and on the sides of a vat when filled with hot water. These mean that at such points the water is not in contact, and the area of such bubbles is not being sterilized, to say nothing of the covers of these vats, which do not come in contact with the water. Of course the covers may be rinsed off with hot water but usually such exposure is not long enough to accomplish maximum results. Because of its capillary attraction water does not get into the crevices and does not displace the air from small corners. Water also travels along its course more or less at a certain level through the lines, and direct contact is not established at all points.

Live steam has an advantage, in that it has great penetrating power. This is due to its comparatively low specific gravity which enables it to replace air in crevices, cracks and corners. It makes contact with all portions of the apparatus and the temperature is more uniform.

It is well to have steam cocks located at several advantageous points in the milk plant, so that the apparatus may be sterilized in sections, and the principle employed in sterilization with this medium should be the reverse of that employed with the use of hot water. Instead of beginning sterilizing operations at the receiving end of the apparatus, it should commence at the output end. This is particularly true where the design or layout of the apparatus is such that the law of gravity is used. It is well not to attempt sterilizing too much of the apparatus at one time, rather use one steam line for the filler and cooler, another for the milk lines from the cooler to and including the vats, another through the lines from this point connecting filter, pre-heater and storage tanks. Another line from the receiving end should sterilize the milk lines to and including the storage tanks.

The operator should maintain a good head of steam, approximately sixty pounds, in the boiler. It is not necessary to have the steam rushing through the lines with great force, however. After the apparatus is hot, reduce the valves until enough steam is flowing to overcome the resistance of the line and to keep the apparatus hot. The time exposure should not be less than fifteen minutes after the apparatus is once hot, and the temperature not less than 180 degrees Fahrenheit at any one point to accomplish efficient and practical sterilization.

James N. Lightner, Legal Advisor,
Pennsylvania Department of Health.

In the matter of cities of the third class it is found that the Clark Act provides that every city of the third class within this Commonwealth shall have the power, etc., "to make regulations for the enforcement of the laws of the Commonwealth relating to the control of communicable, contagious diseases, and for the enforcement of the regulations and orders of the State Department of Health; to make regulations to secure the general health of the inhabitants, and to remove, prevent, and abate nuisances."

Section 1 of the Act of April 20, 1869, P. L. 81, which has not been repealed, states that "the councils of cities and boroughs in this Commonwealth be and they are hereby authorized and empowered to provide for the inspection of milk, under such rules and regulations as will protect the people from adulteration and dilution of the same."

Both sections referring to cities of the third class give ample authority for the protection of the milk supply entering cities of this class. You will further note that the first section above referred to provides for the enforcement of the regulations and orders of the State Department of Health.

The Advisory Board Rule relating to milk was passed for the purpose of safeguarding the health and comfort of the people of the State and it devolves upon the city authorities to see that the regulation is enforced.

In relation to Boroughs it is found that Chapter V, Article 1, Section 26, of the Borough Code, Approved 1915, states in part as follows: That "The powers of a borough shall be vested in the corporate officers and they shall have power to regulate markets and peddling; and to provide for the inspection of milk."

The rules and regulations of the Department of Health have been upheld on numerous occasions by the lower courts of Pennsylvania and, where such rules and regulations are reasonable, the courts have uniformly held that they must be enforced and complied with. That a regulation such as the milk regulation, made by the Department of Health, is reasonable cannot be gainsaid. The model ordinances which have been prepared by the Department and passed upon by the Attorney General should be passed by all boroughs and townships of the first class at the earliest possible date with modifications, of course, to suit the requirements of the various municipalities of this Commonwealth.

John W. Rice, Ph. D.
Bucknell University.

Milk is a universal food. It contains the three primary foodstuffs necessary for the metabolism of the human body, namely, fats in the cream, carbohydrates in the form of milk sugar, and proteins in the casein of the milk. No other food or foodstuff, natural or synthetic, so completely meets the metabolic demands of the human body as does milk. In addition to the primary foodstuffs found in whole milk, those peculiar adjustors of the metabolism of the body, the vitamins, are found in this universal food. Vitamin "A", or the fat soluble vitamin, is found in the cream, and of course in concentrated form in butter. Vitamin "B", or water soluble vitamin, is found in the whey of the milk. Deficiency of vitamin "A" in the diet leads to peculiar eye disease, and to stunted growth in the young. Lack of vitamin "B" in the diet leads to general systemic disturbances, polyneuritis, atrophy of the sex glands, and in extreme deficiency cases, to death.

From the foregoing it is obvious that fresh normal milk is one of the most important of human foods. No article of human diet is more susceptible to undesirable changes. This is so, in part, because of the rather delicately balanced chemical composition of milk, and partly because of the conditions naturally surrounding the production and handling of it. The deleterious changes which commonly occur in milk are of two sorts. (1) Those due to absorbed taints and odors which are strongest at the outset and diminish with age and aeration, and (2) those which are due to the presence and activity of micro-organisms. The changes of this latter sort are slight at first, but become more and more pronounced with age. Such changes are: souring accompanied by curdling, sweet curdling, or ropy or slimy milk, gassy milk, bitter flavors, etc.

The changes just indicated in the physical and chemical state of the milk are the result of the presence and growth of several types of bacterial groups in the milk. Very briefly the chief characteristics of these groups are presented in the following:

1. *Bacterium Lactis Acidi Group*:—The sources of these bacteria are the seams of the milk utensils, dust of the stables, and the coat of the cow.

2. *Bacterium Bulgaricum Group*:—The source of this group of bacteria is the alimentary tract of the cow. These are true lactic acid producing bacteria, which thrive best in slightly acid milk.

3. *Bacillus Coli-Aerogenes Group*:—The organisms of this group are classed as undesirable. They get into the milk from the fecal matter which falls from the flank and udders of the cow in the milking process, and also, from the dust arising from hay, fodder, and grain products when cattle are fed at milking time.

4. *Peptonizing Group*:—Bacteria of this group are associated with filth and their presence in milk, together with the bacteria of the preceding group, indicate extreme unsanitary conditions of production and handling of milk.

5. *Bacteria Having No Appreciable Effect Upon Milk*:—These micro-organisms represent in part the normal bacterial flora of the udder of the cow, and in part, the harmless bacteria of the air.

6. *Pathogenic Bacteria*:—This group includes all species of bacteria which may gain access to the milk that are capable of producing a specific disease in the human. Two species in particular may be derived from the cow, (1) *Streptococcus hemolyticus*, which is the cause of epidemic sore throat, and (2) the tubercle bacillus, the causative agent of tuberculosis.

The keeping qualities of milk are inversely proportional to the initial bacterial contamination of the supply. High initial contamination goes hand in hand with early souring of the milk. Methods which can be employed to insure a clean and safe milk for human consumption are sanitary production and pasteurization. By either or both these methods the food and vitamin content of the milk is unaltered, and the bacterial content is reduced so that the keeping quality of the milk is increased to a remarkable degree. In order to safeguard the public from the unsanitary production of milk by the ill-informed, or the careless dairyman, regulation by the State or municipality is the only plausible way to obtain such uniformity of the food content, and freedom from objectionable bacteria as would insure the health of the public as affected by the milk supply. In cities of the first, second and third class, municipal milk laboratories can be maintained, with no unusual financial difficulties, where competent milk analysis can periodically check up on the milk supply and right early discover any deficiencies, either in sanitary production, as revealed by the number of bacteria in a given sample of milk, or in the chemical composition as shown in a chemical analysis of the same.

John W. Wright, M. D.
Health Officer, Erie, Pa.

With the advancement of knowledge concerning milk during twenty odd years, a large number of our local milk vendors conceived the idea of organizing a cooperative milk plant and about sixty of the one hundred vendors went into this organization. This has later become known as the Erie County Milk Association. Their first plan was to reduce unnecessary service and give better service; milk served by twelve or sixteen vendors in a municipal block was distributed more rapidly and more effectively, in a more cleanly manner,

and consequently more safely to the consumer by one distributor. About twenty years ago these people saw the advantage of pasteurization and, with the approval of the Board of Health, they installed a pasteurization plant furnishing, however, the raw product when such was desired by their customers. The method then in vogue was the Flash process, which soon proved itself to be undesirable, and the company again, with local Board of Health cooperation, established on a larger scale the Holding scheme of pasteurization, which at that time called for a temperature from 138 to 142 degrees Fahrenheit for thirty minutes, with the result that approximately eighty percent of our milk product to January 1, 1920, was pasteurized, the remainder being sold loose and raw.

In 1921 the Board of Health passed a regulation requiring that all milk be either pasteurized or come from tuberculin tested cattle, recommending that the same be bottled. This regulation was submitted to the State Health authorities and approved by them, but owing to various local influences was not approved by the Mayor, hence failed to be placed in operation. After a bitter controversy, these rules were finally approved by the Mayor in August, 1922, but again owing to active opposition by political and independent milk vendors, their enforcement was not permitted. A final adoption by the State Health Advisory Committee has resulted in that milk sold in Erie is either pasteurized in accordance with State regulations or produced from tuberculin tested cattle, the dairy employes and vendors being required to furnish health certificates to our Board.

We have, in addition to the State regulation, a rule which requires that all milk delivered for individual consumption be bottled at the plant in a sterilized container, not to exceed one quart, with the proviso that hotels, restaurants and bakeries and other similar concerns, be allowed to purchase milk in bulk, provided such permit was properly applied for, through regular channels and certified to by the distributors. While we have reduced the number of milk vendors materially, we believe through the process above referred to, the service has been vastly bettered and that the purity of the product delivered to the consumer has been greatly improved, at no materially increased cost.

With reference to the early work of dairy inspection, a great deal of stress was laid upon the score card. In the light of present knowledge this to our mind is unnecessary for the reason that the score card, past and present, has emphasized to a much greater degree the importance of equipment rather than the handling of the product.

With reference to dairy inspection, I would reiterate the importance of cleanliness of yards, stables, cattle, milk houses and employes, sterilization of cans and milk pails, the latter obviously being of the small topped kind. In this connection we have always insisted that the less the handling of milk the better for it.

The cooler, for illustration, as usually employed, detracts from rather than adds to cleanliness of the product. During the six hours following the milking, the bacterial content of milk tends to remain stationary or is lowered. Therefore, if this milk instead of being

cooled, involving repeated handling as such procedure does, is at once placed in a clean receptacle and transferred to a cooling tank, its bacterial content will not greatly increase.

Of late years the question of transportation has presented some problems that are of more than passing notice, notably in that the milk is brought in by trolley and train in the ordinary baggage or freight car, without any provision being made for cooling. The milk consequently that may have been reduced to a low temperature at the dairy, when it reaches its destination, has reached the temperature of the surrounding air. This in summer is of serious import, especially in our larger cities where the distance of transportation is greater, and much time is required for distribution.

Fortunately for Erie, most of the milk shipped in has been either condensed or pasteurized and its immediate pasteurization and conversion into ice cream products, for which it is usually used, make it a matter of minor importance.

Home care of milk is a matter which appeals to all of us, and should, I believe, be greater stressed than is usually the case. We have striven during many years to educate the householder in the home care of milk. However, it is very common to see milk bottles standing for hours on the doorstep and to enter homes and find them sitting on the kitchen table in an almost boiling temperature. Among the many simple devices that have been exploited, it would seem that every home should be provided with a small refrigerator or other similar contrivance which would keep milk at a low temperature until it is finally disposed of.

E. E. Romberger, V. M. D.,
Milk and Meat Inspector, Reading, Pa.

What the milk inspector can accomplish in his community depends on a number of things. One is the resources at his command. Another is his own individual initiative. Another is the methods he adopts and still another is what he is allowed to accomplish by the citizens of the community.

Let us say that a town of 50,000 has been awakened to the fact that it needs milk inspection, and has engaged a milk inspector, but has no milk ordinance. The fact that the town has engaged this man does not mean that the majority of the people favor the inspection or believe in it. The inspector, for economic reasons alone, will want to show the people that his inspection is worth something. He will want to show them that he is not a necessary evil, drawing a salary for stirring up trouble.

In turn it is to the interest of the citizens to pay a fair salary to obtain a competent man. Assume the town has no milk ordinance. Usually it is the inspector who must stir up the question of efficient milk legislation. An ordinance will probably be prepared by the inspector with the assistance of a State agent. The ordinance will require pasteurization. This will probably arouse considerable opposition from the raw milk dealers and their friends. The inspector will be in the center of the controversy.

He will achieve his point easily enough if the leading men and the governing bodies of the community are back of him. But he must know his ground and must be prepared to use all the resources at his command to gain his end. Some of these resources are the State laws, the rules and regulations of the State Advisory Board, Federal influence, the experience of other cities and appropriate statistics.

Now that the inspector has accomplished the enactment of proper legislation with teeth in it, he must accomplish its enforcement. The way the start is made is vital. Milk inspection is to be built for all time. If it be not built on a good foundation, endless trouble will be encountered later on.

At the start is the time for weeding out the dishonest dealers, the dealers who pasteurize their milk in a horse stable or up a dirty alley, the dealers who make no effort to conceal the fact that they are going to try to evade the ordinance and the dealers who are notoriously dirty and careless.

A gradual but prompt process of weeding out is the best plan. It must not be done so hastily as to interfere with the town's milk supply, but the sooner it is accomplished the better. If you allow a careless dairymen to continue in a dirty plant for a year or two and then attempt to stop him, the question will be raised: "If his milk has been safe for a year or two, why is it not safe now?" It may be difficult to answer this question. In our city we find it easier to refuse a license to a man than to try to take it away from him once he has it. The dishonest dealer and the law evader must all be stopped as soon as possible or else made to see the error of their ways.

The law must be enforced at the start. Pasteurizers, for instance, dare not be allowed to get into bad habits, such as running their milk at any temperature convenient to them, or holding only as long as they see fit. Raw milk dealers must be held to the requirements of the law concerning bacteria, fat and sediment. License fees, if provided for, must be collected promptly. Obscure points of the law must be explained. Rules and regulations will have to be laid down. The more energy used in starting the ball rolling, the less energy will be necessary to keep it rolling.

The inspection must be built with an eye to the future. The mistake is only too common of having the Health Bureau of the town, which will include the milk inspector, at the mercy of the vagaries of politics. This is not fair to the employes of the Health Bureau, to the citizens of the town, nor even to the politicians themselves. The Health Bureau should function independent of any council, or any change of politics. It should not be necessary for any representative of the Health Bureau to feel he must refrain from offending certain men of the town who are not obeying the law, for fear that their influence may cause him to lose his position. Public health should not be a political football. If the inspector can insist upon this understanding at the start, he may save a great deal of trouble later on, not only for himself but for any subordinates.

We will say that the inspector has accomplished the weeding out of bad dealers and the encouragement of the good ones. All this

time he has been working with the dealers. He is showing them how to do things, in addition to telling them how. He is keeping a close watch on all the milk, not only a certain part of it.

In time people will begin to see that the inspector is really accomplishing something, and that the milk is showing improvement. A little educational work may be valuable at this time, such as showing the decrease in baby death rate, in milk-borne epidemics, in number of cases of summer complaint in babies, etc. It may be that the schools will begin to take up the question of milk lunches.

But if the work gets too great for one man to handle, details will slip through here and there, and citizens will begin to see small defects, which they are only too prone to magnify. So it may be necessary to equip a laboratory, put on a laboratory man to analyze milk, and possibly another inspector. It certainly should not be necessary for the inspector to do routine laboratory and clerical work. Any community which wants adequate protection of any sort must be prepared to pay for it. When the ordinance was agitated, people were shown how much bad milk was being sold in the town, and what that bad milk meant. So now they know more about milk than they did, and if they get the idea that a portion of the milk is still bad, it will shake their confidence in the entire supply of milk and in the inspection.

The point I wish to make is this. The people have confidence in the safety of the milk supply and feel sure they are receiving a clean, palatable and safe milk every day and because of this they will use a great deal more than they did before. The inspector can help by newspaper articles and talks, telling the people about the milk they are getting, and showing them why they should use more of it. He can incidentally show them how to take care of it after it is delivered. Then when the dealers themselves agitate increased milk consumption, they will have some backing for their statements.

The milk inspector is, of course, brought in contact with the farmers. The help he can give them need not be mentioned here, as it is self-evident.

I would like to say just a word about plant inspection, with special reference to pasteurizing plants. The inspector must familiarize himself with the methods of operation of each one of his pasteurizing plants. This is necessary, not because he suspects the honesty of the dealers, but because either through error or misunderstanding a dealer may not be pasteurizing properly. The matters of pasteurization temperature and time of holding, recording thermometers, cooling temperature and temperature of ice box, methods of sterilization of equipment and bottles, sanitation of plant and employees, these must all be watched on the ground and must be supplemented by judicious laboratory tests.

The inspector can be deceived on a number of points. Some of these are:—Removal of cream or addition of water or skimmed milk easily detected in the laboratory. Sending raw milk right through without pasteurizing, detected in various ways, both in the laboratory and field. "Doctored" charts on recording ther-

mometers, to show pasteurization when none took place. Not holding the milk thirty minutes, difficult to detect from the clock on vats because the thermometer is at the bottom of the vat. Running a twenty-four hour chart on a twelve hour clock, cutting the holding time in half. On continuous systems, of the Chester type, opening the valves and running the milk directly from the first tank over the cooler. Neutralizing the milk or cream with high acidity. Substitution of vegetable fats. Use of powders. Repasteurizing and standardization of fat are forbidden in most ordinances, but the practice is of course widespread. These are only a few points.

In summary, I have endeavored to show that a milk inspector can accomplish the following in his community:

A good workable milk ordinance with teeth.

An efficient system of inspection, by a well paid organization, free from politics, and on a basis suitable for future development not only as to milk but other foods.

A better milk supply, adequate as to quantity and safe as to quality, with the attendant result of better public health, particularly in infants and children, with complete elimination of milk-borne epidemics.

Increasing public confidence in milk, directly and indirectly encouraging increased consumption of milk as a matter of bettering public health standards; encouraging use of milk in schools; educating citizens in better care of milk in the home.

Service as a peacemaker, when misunderstandings threaten the quantity or quality of the town's milk supply.

Help for the farmer, assisting him to improve the quality, and possibly the quantity of milk at the source of production; education in tuberculosis eradication, better stock, etc.

Establishment of a municipal laboratory, not only as a check on dealers, but as a help for them.

PENNSYLVANIA'S FLY CAMPAIGN.

The Golden Rule with reverse English is: "Do to the other fellow what you think he intends to do to you, and do it first."

This seemingly unethical precept is not recommended for general practice, but with respect to our relations with the common house fly, its employment is not only justifiable but advisable.

Bred and nurtured in loathsome filth, this vulture of the insect world bears pestilence and death on its carrion tainted body. The few of early springtime, if undisturbed, will be followed by millions before the frosts of autumn.

Prominent among the victims of fly contamination are infants. Every summer, coincident with the coming of the fly, the number of baby deaths increases and the figures grow greater, month by month, as the fly population mounts, to subside when they succumb to the frosts of October. To save the babies—we must destroy the flies.

The female fly, during her few weeks of life, lays several batches of eggs, as many as two hundred at a time. For their successful development and to provide a suitable food supply for the oncoming larvae, they must be deposited in rotting or fermenting organic substances, or in excrementitious matter, animal or human.

It is helpful to "swat the fly". It to some extent reduces adult fly population and removes from the scene prospective mothers of millions. It also serves to keep in mind the fly menace to human life, but the essential factor in fly extermination is the destruction of breeding places.

Any community may rid itself of flies, if all work together to a common end. If, however, in a community of a thousand, 999 free their homes from fly breeding possibilities, but one maintains a filthy pig pen, fly breeding with its attendant dangers will go merrily on.

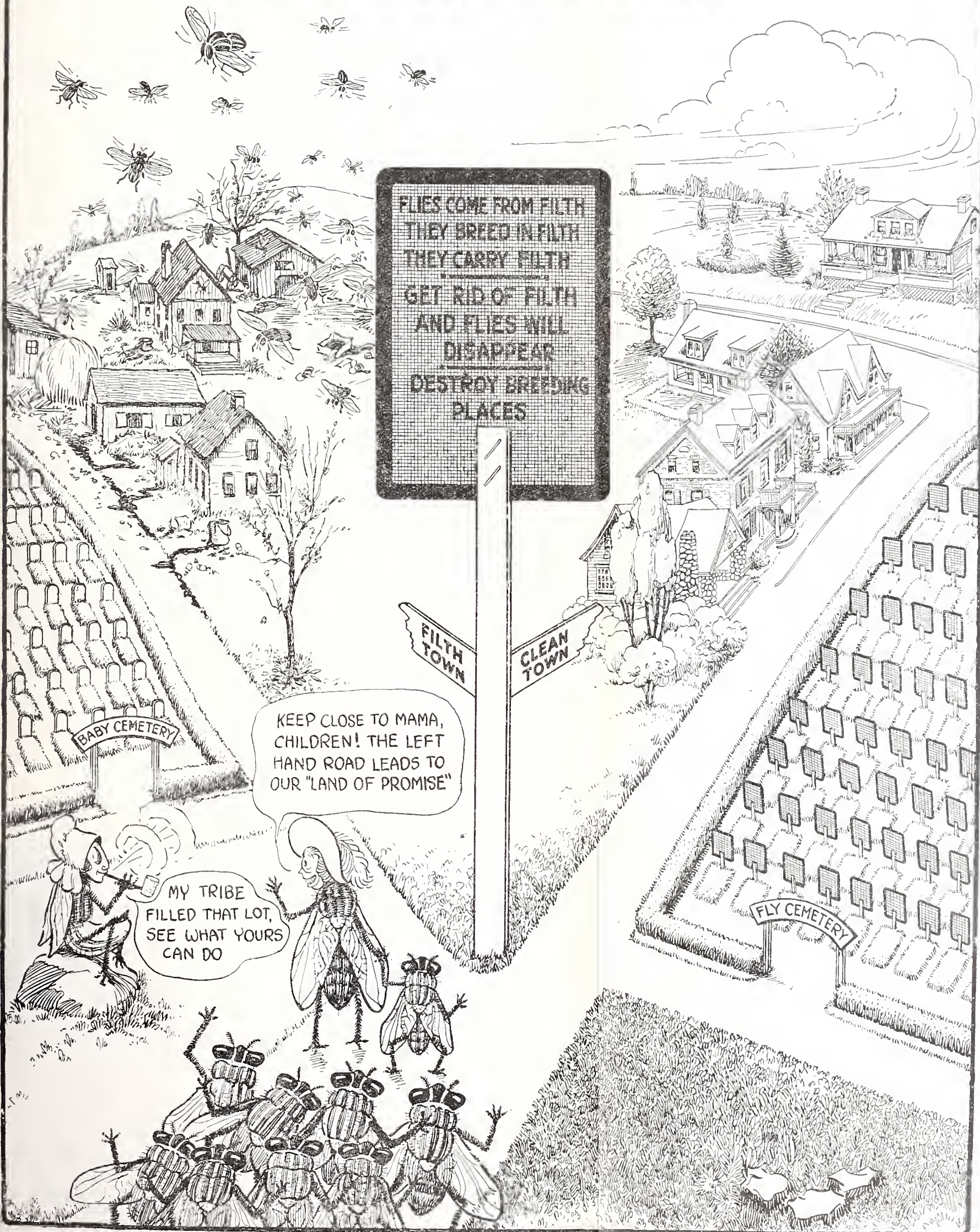
Wholehearted team work is the thing needed, not for a day nor a week, but during the entire fly season.

Organize a fly campaign committee. Get the Board of Health back of you and every organized body of your community with you. Divide the town into sections and have each section patrolled regularly to find out, if any fly breeding places exist and if so, report to the Board of Health who will serve notice of abatement. Fly breeding places include manure heaps, ill kept pig pens, unscreened toilets and cesspools, leaky and uncovered garbage cans, heaps of garbage (often garbage is thrown among the tall weeds of vacant lots—such lots should be mowed), filth of any and all kinds.

If you have an organization of Boy Scouts, why not assign the patrol work to them? After the work has been started and people get in the way of destroying breeding places, it will be easy to keep it up. Come now, let us start together. Begin with the general clean up during the week of April 14th and keep it up all summer, so that Pennsylvania may become a haven for babies and a desert for flies.

W. C. M.

COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF HEALTH.





ISSUED MONTHLY

By The Pennsylvania Department of Health

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The Health Gnome Says



Get ready for the first of May!
It's set aside as "Children's Day."
Come help the scheme and spend your wealth,
To aid the cause of "Children's Health".
You cannot all be Kings and Queens,
With golden crowns upon your beans,
But though you cling to cheaper lids,
Like Queens and Kings, you once were kids—
And lived the troubles, hopes and joys
Of pig-tailed girls and barefoot boys.
You may have fortune great or small,
Or pay no income tax at all,
But "come across", don't fall behind,
It's what you owe to human kind.

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MAY DAY

The first day of May—"May Day" of old England has long been celebrated as a time of festival and joyous welcome to the return of the grass, the flowers and the leaves.

It was observed by the ancient Romans in honor of "Maia", daughter of Atlas, who supported the vault of the heavens upon his brawny shoulders. "Maia" was famed as the mother of "Mercury", the messenger of the Gods and, while it is subject to dispute, it is generally accepted that it was from her the month derived its name.

During the reign of the Tudors in England, the entire population arose with the dawn and went "A-Maying" in the woods—they returned to the town in triumphant procession, bearing branches of trees, flowers and grasses. The place of honor was occupied by a huge Maypole, gaily bedecked with many colored streamers. It was set up in a prominent place and was the "totem" around which dances and games were conducted.

The American Child Health Association has hit upon the happy thought of designating this day, which custom has established, the gateway of the season which symbolizes youth, growth and strength, as Child Health Day, and requests all communities to so arrange their May Day programs to include practical demonstrations, which will be of educational value in the great general plan for the conservation of child life and the promotion of child health.

The Pennsylvania Department of Health has most heartily endorsed the movement and urges its entire personnel, wherever located, to cooperate with the program.

The State Chairman in charge is Dr. Samuel Mc. Hamill, 1822 Spruce St., Philadelphia. Write him for special information.

W. C. M.

MUNICIPAL HEALTH ORGANIZATION

By

Wm. G. Turnbull, M.D.

In the primitive community all problems were individual problems. Transportation, Education, Police Protection, Water Supply, Sewerage Disposal, and Health were all considered the business of the individual. With the more complex development of our communities these individual problems have become community problems to be solved by community consent and at community expense. Our streets, our public utilities, our schools, our police and fire departments are now city responsibilities and concern the individual only in that he must pay his share toward their support, whether he approves of them in all their details or not.

For various reasons our smaller cities have been much slower to consider Health a definite public responsibility. Although this responsibility has been recognized by the state law under which these cities have been organized, the provisions of this law have usually been carried out in a half-hearted, inadequate and inefficient manner. Boards of Health have been made up of men appointed for political reasons and not specially trained to understand or solve the public health problems. The same Board appointed as a committee on highways would have employed a properly trained engineer to give advice and do the technical work for them. When appointed as a Board of Health they have usually followed their own advice and have employed the minimum of assistance, usually part time employees, untrained in public health work.

This has not been a reflection on the character or intelligence of the Board of Health, but rather an index of the education and desires of the community. The state law said that certain legal requirements relative to health must be carried out. The question to be solved by the Board was how these could be carried out in the cheapest and least troublesome manner—the manner desired by their constituents.

More of the credit for real advancement in health work must be given to the volunteer agencies. In most of our cities it has been these organizations that have shown the people what was needed in health work and what they had a right to expect and demand. Too great credit cannot be given these organizations for the educational work they have done. Their work must, however, be limited largely to education and demonstration. Only in the occasional instance where these organizations are in possession of funds sufficient to enable them to employ trained, full time workers can they be looked upon as serious factors in the administration of a city Health program. The existence or activity of these volunteer agencies cannot be considered an excuse for failure of the city government to carry out the legal health program with the same intelligence and energy that it displays in other lines of municipal work.

The health program of the small city is divided into two parts, (1) Education and (2) Administration.

The educational program is essentially the function of the volunteer agency. Proper sanitation, proper housing, properly protected water supply, proper enforcement of quarantine laws, proper milk control, and proper child welfare activities will not be demanded, supported or tolerated unless the people are first educated as to their value. National and State health organizations doing educational work can reach only the more intelligent people of the community. These people will in turn make up the local volunteer agencies that must by endless patience and effort carry this education to all the people.

While the health problem in all our cities is essentially the same, it will of course vary in details according to location of the city and the character of its population. The necessary educational work will therefore vary to some extent. The three essentials for the health work in all cities, however, are proper housing, proper sewerage disposal and proper water supply. Given these three all others can be added unto them; without these nothing permanent can be accomplished. Milk inspection, control of communicable disease, the various child welfare activities, school inspection, the establishing of dispensaries and hospitals to care for the sick are all important, but without proper housing, proper sewerage and proper water supply, time and effort spent on them will be largely wasted.

After the volunteer agencies have educated the people to know what they need and want in health work, it is next their duty to teach them how to secure it. As a general principle, in our form of government we get from our elected rulers about what the people want and about what they are willing to pay for. City Health is a commodity that can be purchased, just as good roads or good schools can be purchased. How good the city streets will be depends entirely on how much the city is willing to pay for them and on the judgment used in selecting engineers and contractors. So it will be with City Health. The sooner the people are taught that City Health is not an accident, and not a gift from above, but a definite thing to be purchased, the sooner they will become interested in what they are purchasing and from whom it is being purchased.

If a campaign is conducted in the city for better schools, the people do not expect the organizations that conducted the campaign to be the architects or the builders of the school buildings. After the buildings are completed they do not look around the community for those who have proved themselves unable to earn a living in other ways and select these people as teachers in the schools; neither do they select favored ones from their lawyers or doctors or merchants and pay them a small fee for teaching in the schools in the odd hours that are not needed for their other work. They have been educated to know that good buildings can be bought and that they must be bought from good architects and contractors. They have been educated to know that good schools can be bought and that they must be bought from specially trained teachers.

This is exactly the education that is needed after the people have been taught the need of City Health. The definite health program for the city should be laid out by some one trained and experienced in

that work, not by the untrained people who have done the educational work so well. City Health must be purchased. The same business sense must be used in deciding how much will be spent and how it will be spent that is used in deciding other municipal expenditures. Most of our cities are spending far too little on health work. They cannot be much blamed for they are not getting value received for what they do spend. They must be taught that city health can be made a profitable investment.

The Health Program when adopted should be carried out by trained workers, carefully selected and adequately paid. The day of the part time medical health officer has passed. No physician can do proper executive health work if he has to compete with his fellow physicians in private practice and has to depend on his private patients for the greater part of his income. A supposedly full time medical health officer who will work for \$1500. to \$2500. per year is either an inefficient man who cannot command the respect and confidence of his community, or he is not a full time man at all. Many a so-called full time medical health officer is compelled to earn the greater part of his income from private practice. The private work under these conditions will always take precedence to the public work and proper law enforcement becomes impossible.

It is probable that in most of our Pennsylvania cities where health work is not being properly done, the failure will be found due to the character and training of the people who are being employed to do the work. The physician at the head of the department, the officers carrying out his orders in the various departments, the visiting nurses, the social workers, all must be trained workers adequately paid if results are to be expected. The man appointed for his political affiliations only, the part time man busy with his other duties, and the inefficient appointed just because he needs the money, have no more place in Health work than in Schools or Highways.

There remain the occasional volunteer agencies possessing sufficient funds to enable them to become serious factors in administering the public health program. These agencies may be of great assistance or they may be the cause of confusion and inefficiency. If they are to be of assistance their work must be definitely coordinated with that of the organized City Health Department. Some one must be the recognized leader in the health work. None of these volunteer agencies possess the means or the breadth or aim necessary to qualify them as leaders. The legal Health Department does possess these qualifications and is the only logical leader in the health work of the city.

If the volunteer agencies are willing to work with and under the supervision of the Health Department, they should be encouraged to take part in the administration of the Health Program. If they are not willing to do this, it would be advisable for them to confine their efforts to education and demonstration.

ELECTRICAL ACCIDENTS

By

T. Lyle Hazlett, M. D.

Electricity is now entering so largely into daily use that it is essential everyone should have a knowledge of its hazards, and thus prevent accidents, while, at the same time, permitting advantage to be taken of its many applications.

Electricity, flowing through a wire, has well been compared with the flow of water through a pipe, except that electricity must have a going and a return circuit. As long as the pipe is not cracked or broken, water will flow through it and will not escape. Similarly with electricity, as long as the wires are not broken and the covering on them, or insulation, as it is called, continues in good condition, there is not danger of the electric current escaping, and therefore no risk of accident, if the covering is touched as by the hand. In fact, as the Bureau of Standards points out in its publication, entitled "Safety for the Household", which should be read by everyone, even if the covering be damaged and one of the wires still be touched by hand, this mere contact with the portion of an electrical circuit will always be harmless, unless a second contact is made with the same circuit at some other point, either directly or even indirectly by means of the ground, plumbing or the like, and a complete circuit thus established through which current can flow.

For example, a person can even stand on one or both street car tracks (these being equivalent to one uncovered wire of an electrical circuit) and experience no ill effects. Likewise, if one could suspend himself in mid-air from a trolley wire, (this being the other wire of an electrical circuit), grasping it either in one or both hands, nothing would happen, because in neither case would the circuit be completed. But should the person stand on the track, and, at the same time, be able to grasp the trolley wire, the result would be deadly because the circuit is thus completed from the trolley wire through the person to the tracks.

Unfortunately, one has no assurance that if a wire is touched, it will not complete a circuit, and it is best, therefore, to take no chance, but to play safely by assuming that every wire is dangerous and to be left alone, as commercial circuits are more or less grounded at all times, as may be readily surmised, due to many and varied causes, though the power companies are constantly at work trying to prevent this condition.

Disregarding accidents which cause fire and concerning ourselves only with accidents to persons, these may result in either shocks or burns, or both.

The severity of a shock or burn will depend upon several factors—voltage or pressure of the electrical circuit, the manner and length of time in which contact is made, the portion of the body brought into contact, etc.

An ordinary house circuit would hardly be considered dangerous by the average person, it being believed that the only result of making contact with it would be a sharp "rap" or tingling sensation felt in the hand. And this is true in most instances, as for example, when the hands of the person are dry. But let the same person's hands be wet and let him then take hold with one hand, say of a lamp socket, in which there is a defect in the insulation, while with the other hand he attempts to turn on a water faucet, and the result may be a bad shock or burn or both. Or he may even touch the lamp socket with one hand while standing on a wet floor, or while leaning against a radiator, and the result would be the same. In either case, the electrical current, coming from the power plant, would leave its proper course at the defective lamp socket, travel through the person's arms and the body to the wet floor, or the radiator, thence to the ground and through the ground until, at some other bad spot in the insulation and in connection with the ground is met, when it would then return to the wire, and so on back to the power plant, thus completing the circuit.

In the event of burns, the main consideration is to keep the injured part away from the air by applying the usual household dressings which, however, must be clean, but if burns are at all severe a physician should be called, as this may prevent complications and also lessening of scar formation.

If a patient has only been slightly shocked, but not rendered unconscious, he should be placed in a reclining position and kept warm. However, if he has been rendered unconscious, a physician should be sent for immediately, but, in the meantime, there is nothing so necessary as the application of the Schaeffer Prone Pressure Method of Resuscitation, which also may be used to equally good advantage in case of apparent asphyxiation by gas fumes or drowning. This method has been broadcasted over the country by radio within the last few months, having been prepared by the National Safety Council, National Electric Light Association and the American Gas Association. We cannot do better than repeat it here:

Start treatment immediately, and as near the scene of the accident as possible.

Lay victim on stomach—face to one side—arms extended straight forward.

Now kneel—straddling victim—well below the waist facing toward his head.

Place your hands on small of victim's back—just above hips and touching lowest ribs.

With arms straight—swing forward slowly—bring your weight to bear upon the victim—gradually but not violently—for about three seconds.

Then swing back to original position, releasing your weight.

Repeat operation about 12 times a minute or at a rate you yourself breathe.

All you do in these instructions is to force air out of the lungs, when you exert pressure, and when you release pressure, the air flows back itself.

The victim will usually show signs of returning life within a half hour, but, if not, continue as long as four hours.

Do not move him until he is breathing normally without assistance; then use a stretcher keeping him warm and in bed for several hours.

Learn this method yourself. Delays are fatal. Do not leave the patient until breathing is restored. Death is the frequent result of efforts to send for help. If you have mastered this method of artificial respiration, you have in your own power the best means of reviving the patient. Try it on your friend, and have him try it on you now.

VACCINES

by

John A. Kolmer, M. D.

The word "vaccine", which has lately come into such common use, was coined about 1794 by Doctor Edward Jenner of England, to designate the material employed for vaccination against smallpox. This old-fashioned country doctor noticed that some of his patients developed sores on their hands after milking cows with peculiar sores on the udders. He and a number of the simple country folk observed that such persons never contracted smallpox which was then a scourge in England and every year claimed thousands of victims. Doctor Jenner being a thoughtful man decided that the sores on the udders of the cows must be a form of smallpox in cattle and that the sores developing on the hands of the milkers must in some way protect human beings against smallpox. He was daring enough to take some of the material from the cows and deliberately rub it into the skin of persons who had never had smallpox. All these individuals developed sores at the point of inoculation but when subsequently exposed to smallpox escaped taking the disease. Here was a great discovery, one of incalculable value, for a means had been found to immunize or protect human beings against a great scourge. Since the Latin for cow is "vacca", Jenner called the virus "vaccine", and the process of rubbing it into a little abrasion of the skin was called "vaccination".

Vaccine virus as used today is made in somewhat the same manner, only calves are ordinarily employed. The virus or vaccine which the doctor rubs into the skin when he vaccinates an individual contains the living germ or virus of cowpox. Cowpox is simply smallpox of the cow or cattle; it is caused by the germ of smallpox, but as a result of living in the tissues of the cow or calf it is forever changed. This change consists in that the germ loses its power of producing smallpox in human beings and when it is taken from the calf or cow and is applied to our skin is capable of producing only a local inflammatory reaction. In the vaccination sore substances are produced and absorbed in the blood which stimulate our body cells to throw into blood substances called "antibodies", capable of killing the true smallpox germ, should we ever be so unfortunate as to have it enter our bodies. In other words cowpox virus can never produce smallpox; on the other hand the antibodies produced by cow-

pox protect us against smallpox for many years and even for a life time.

Along about 1880 the great Pasteur discovered that the virus causing rabies or hydrophobia in dogs, cats, wolves and other animals which was frequently transmitted to human beings when bitten by these "mad" animals, was located not only in the saliva but also in the brain and spinal cord. He also discovered that if such a spinal cord from a rabid rabbit were allowed to dry out, that the germ gradually died out at the same time and that a piece of such a cord could be ground up and injected into an animal without producing the disease. He then found that after this injection the animal could stand a dose of cord containing more of the living virus and that after a series of such injections, the animal was brought into such a state that it could stand without any harm the bite of a "mad" dog or the injection of such a dose of the virus as produced the disease in other animals. Having made these discoveries Pasteur, out of true courtesy to Jenner, called the ground mixture of spinal cord and salt water a "vaccine", because it contained the germ of rabies modified and rendered harmless by drying, just as Jenner's vaccine contained the germ of smallpox forever changed and rendered comparatively harmless by having lived for a time in the tissues of the cow or calf.

Soon Pasteur was called upon to treat human beings bitten by "mad" dogs and met with success. Of course not every angry dog which bites in self-protection is a "rabid" dog, but the disease can be discovered by examination of the dog's brain or by locking him up for a few days, since a rabid dog practically never recovers from the disease. Furthermore not every bite of a rabid dog is infected with the virus because the saliva of the dog may have been wiped away by the clothing of his victim. But the majority of persons severely bitten by a rabid dog develop the disease unless promptly vaccinated by Pasteur's method. Some people, including a few doctors, doubt that rabies is transmissible to human beings, but among those doctors and lay persons who, like the writer, have been called upon to witness the death of those victims who were not vaccinated in time, there is no doubt—absolutely none at all!

Since then "vaccines" have been prepared of other germs and particularly for the prevention of typhoid fever, paratyphoid fever, diphtheria, pneumonia, cholera and dysentery. Vaccines of bacteria are also used for the treatment of abscesses, erysipelas, whooping cough, and various diseases of the skin, ear, nose, throat and internal organs. These vaccines are usually prepared by washing the germs grown in cultures in salt water and heating the material sufficiently long to kill the germs so that when the vaccine is injected there is no danger of its producing disease. These dead germs, however, are able to act upon our body cells in such a way that "antibodies" are produced in the blood capable of bringing about the death of the corresponding living germs, should they be already in our body or gain access at a later time.

Typhoid fever and paratyphoid fever have been practically eradicated from the army and numerous localities by means of vaccination and improved hygienic measures.

In diphtheria the vaccine is made up of the "toxin" or disease producing secretion of the diphtheria germ, rather than of the germ itself; to aid the "toxin" in reaching the body cells and to protect against danger and unpleasant symptoms, a little antitoxin is mixed with the toxin and the mixture constitutes the vaccine or T-A (toxin-antitoxin) compound. With present day methods these T-A mixtures are very carefully tested in guinea pigs before being used in human beings and no danger attends their use. By means of a skin test discovered by Doctor Schick of Vienna and now well known as the "Schick Test", it is possible to discover those persons who are susceptible to diphtheria. By injecting these with three doses of the T-A compound, it is possible to render about 95 per cent immune or resistant to diphtheria for probably the balance of their lives. The T-A vaccine compels our body cells to make antitoxin and this antitoxin "stays with us" for years, whereas the antitoxin made in the horse and injected into us in the form of horse serum remains only for two or three weeks.

Vaccines, therefore, have come to occupy a very important and useful place in the prevention and treatment of disease. In a way they act like homeopathic remedies based upon the principle that "like cures like". In a vaccine we use the germ after it has been rendered harmless to act upon our body cells and compel them to manufacture the protective and curative antibodies, which are capable of bringing about the destruction of the corresponding living and disease-producing germs.

DENTAL HEALTH WEEK

HOW IT WAS OBSERVED BY THE READING DENTAL SOCIETY IN READING, PENNA., AND SUBURBS.

Reported by Dr. A. J. Bagenstose, Reading, Penna.

Sometime in December of 1923, Dr. C. J. Hollister, Chief of the Dental Division, State Department of Health, Harrisburg, Pa., suggested the idea of conducting a Dental Health Campaign, to several members of our Society, as a means of properly instructing the public-at-large in matters concerning Dental Hygiene.

The members of the Reading Dental Society, believing that the great mass of people was indifferent to Dental Hygiene not so much because they naturally leaned that way, but rather because its true value in regard to general health was not understood by them.

If the teeth of the individual are kept in an A-one condition from infancy, the child will grow up to be a better citizen, and become an asset rather than a liability to the community, the State and the country. Furthermore, teaching the child the proper way to cleanse the teeth and the many reasons for doing so will suggest the idea of being cleanly in other respects, in personal appearance, habits and morals. The clean child is rarely troublesome. The type of children found in Juvenile Courts is not of this class.

The Society decided to carry out the Dental Health Campaign, and cooperating with Dr. Hollister, a program for the week was planned. The week of February 11th to 16th having been decided upon, the first step was to properly advertise.

The slogan, "Dental Health Week, Watch Your Teeth", was adopted. This slogan, together with proper dates, was printed in blue on white stickers 10 x 6½ inches. The stickers were distributed to autoists, to be fastened on the windshield. The same slogan was printed on cards 28 x 22 inches for window display. The Local Traction Company cooperated with the movement by printing, at their expense, the same slogan which they carried on both ends of their cars, free of charge, for the entire week.

A press committee wrote appropriate articles from time to time which were published in the daily papers. The radio was resorted to, a general talk on Dental Health together with the program was broadcasted on Saturday previous to the Health Week.

Feeling that the idea of Dental Hygiene could be brought before the great mass of people more clearly by showing them actual work, a display window in Reading's largest Department Store was solicited and it was cheerfully donated for the entire week by the firm. A portable outfit was placed in the window and two hygienists operated on children, supplied by the local hygienists from the public schools, daily from 11:00 A. M. to 1:00 P. M., and from 2:00 P. M. to 4:00 P. M. It is needless to say that this attracted throngs of people and was the most widely discussed subject during the entire week.

In these various ways, we brought to the attention of many thousands of people, the object of the Week. Dr. Hollister cheerfully offered his services, and it was through his efforts, together with the valuable services rendered by Miss Philbrook and Professor Happy of the Philadelphia Inter-State Dairy Council, Dr. C. H. Garwood, Superintendent of the Harrisburg Schools, and the cooperation of the local Dental Hygienist and School District, that we were able to bring our message to the public in so thorough a manner.

The Quota, Rotary, Kiwanis and Lions' Clubs had Dental Health programs, at their noonday luncheons, during the week. Dr. Hollister addressed the members of each of the organizations. A tooth brush drill, together with songs by school children under the supervision of the School Dental Hygienist, made the message an impressive one to the business men and women of the city.

As proof of the fact that the message "went home", we have to offer resolutions adopted by each Civic Organization, urging the School Board to employ, at least, five additional Dental Hygienists for the coming year.

The following is a condensed program of the week's activities:

Monday, February 11th, 1924

10:00 A. M.—Douglass—Weiser Junior High School—Address by Dr. C. J. Hollister

11:20 A. M.—Continuation School group Y. W. C. A. Building—Dr. Hollister and Miss Philbrook

12:15 P. M.—Quota Club—Address by Dr. Hollister

1:30 P. M.—Mount Penn High School—Addresses by Dr. Hollister and Miss Philbrook

Tuesday, February 12th, 1924

8:30 A. M.—West Reading High School—Addresses by Dr. Hollister and Miss Philbrook

11:20 A. M.—Continuation School Group, Y. W. C. A.—Dr. Hollister and Miss Philbrook

1:30 P. M.—Douglass—Weiser Junior High School—Miss Philbrook

2:00 P. M.—Girls' High School—Dr. Hollister

3:00 P. M.—Schuylkill Ave. and Greenwich Baby Welfare Station (Mothers)—Dr. Hollister

3:30 P. M.—Sixth Grade Group Boys' High School—Dr. Hollister and Miss Philbrook

6:00 P. M.—Rotary Club—Dr. Hollister

7:30 P. M.—Health Club of Y. W. C. A.—Miss Leona Mitchell, D. H.

Wednesday, February 13th, 1924

11:20 A. M.—Continuation School Group, Y. W. C. A.—Dr. Hollister

12:00 A. M.—Kiwanis Club—Dr. Hollister

2:30 P. M.—Rosedale Welfare Station—Dr. Hollister

3:30 P. M.—Sixth Grade Group Boys' High School—Dr. Hollister

4:30 P. M.—Girls' Reserve Club, Y. W. C. A.—Dr. Hollister

Thursday, February 14th, 1924

11:20 A. M.—Continuation School Group, Y. W. C. A.—Dr. Hollister

12:00 A. M.—Lions' Club—Dr. Hollister

2:30 P. M.—Wyomissing High School—Dr. Hollister & Prof. Happy

8:00 P. M.—Community Meeting—Dr. C. H. Garwood, Dr. C. J. Hollister, Professor Happy, Dr. G. S. Schlegel

Friday, February 15th, 1924

9:00 A. M.—Boys' High School—Dr. Hollister & Prof. Happy

10:25 A. M.—Northeast Junior High School—Dr. Hollister & Prof. Happy

11:20 A. M.—Continuation School Group, Y. W. C. A.—Dr. Hollister & Prof. Happy

1:30 P. M.—Douglass—Weiser Junior High School—Dr. Hollister & Prof. Happy

Members of the Reading Dental Society addressed the mothers at the Baby Welfare Stations throughout the city at their meetings during the week.

We feel that we covered the territory thoroughly and reached directly, at the various gatherings, approximately 15,000 individuals and indirectly many thousands more.

RECIPROCITY BETWEEN THE HEALTH OFFICIALS AND THE MEDICAL PROFESSION.

Abstract of Presidential Address of E. C. Levy, M. D.,
Director of Public Welfare, Richmond, Va.

Next to adequate training on the part of the health officer himself, success in public health administration probably depends, more than on any other factor, on the establishment and maintenance of proper relations with the medical profession. Indeed, the health officer most highly trained from a scientific standpoint may wreck his entire outfit by arousing the active antagonism of the local medical profession, while one far less well trained at the start may by diligent application gradually become a successful health administrator, if always backed by a medical profession which his common sense and consideration has converted into an ally to be counted on both in emergencies and in the daily routine of his work.

Just how the good will and active aid of the medical profession in any community can best be secured must be worked out by each individual health officer in his own community. There are, however, certain broad principles which can be laid down. The details must be left to each health officer.

First of all, the health officer must in his own heart entertain for the medical profession the highest degree of respect. The health officer who outwardly cultivates the medical profession and who inwardly has contempt for their attainments in the public health field is sure to be found out. This does not mean that the health officer must or that he can regard the members of the medical profession as experts in public health. Distinctly they are not, but the fields of public health and medical practice have certain things in common, while, outside of this common ground, each profession covers much not included in the other. It should be the aim of every health officer to have very clear ideas concerning this common field, and in it to secure complete co-operation of the two professions.

While by no means questioning the altruism of the medical profession, by no means wishing in the slightest degree to detract from their record for unremunerated service to suffering humanity, we are, nevertheless, on far sounder ground if we can show that there are advantages to be gained, by physician and health officer alike, through mutual understanding of the benefits which each profession can confer on the other. Unless we can make out a convincing case along these lines, it is to be feared that our position is fundamentally weak.

In considering, from a practical standpoint, co-operation between the medical profession and the constituted health authorities, we

may, first, take up those things for which the health authorities are absolutely dependent upon the doctors. In this category come the reports which doctors are everywhere required to make, covering births, deaths and cases of contagious disease occurring in the course of their practice.

In their attitude toward the enforcement of this very fundamental requirement, we find health officers sharply divided. Some, finding that they have at their command both state statutes and city ordinances requiring these reports and imposing severe penalties for failure to supply them, feel that they will get full and satisfactory returns by uniformly reporting to court every delinquent; for they hold that not only will the men who have themselves been fined see to it that they thereafter comply with the law, but that other members of the profession will also do so, lest they, too, be made to suffer the consequences.

Other health officers regard these laws only as a last resort, to be invoked only where other means have failed. This latter group questions whether, even in the completeness of returns, as good results can be secured by force as through less drastic measures, for, while of course through rigid enforcement of the law a certificate for each birth and each death can be obtained, still the physicians are not likely to take as much trouble to give accurate and full information under compulsion as under co-operative endeavor. The more carefully these certificates are made out, the more reliable will be the statistics based on them. In certain other classes of reports, particularly reports of contagious disease, the case is not so simple. No law can force a doctor to make an early diagnosis, and so reports submitted willingly are far more likely to be made promptly, and, also, more reports will be made of suspicious cases than where sole reliance is placed on the strong arm of the law.

Sound argument can thus be made as to whether, even in the promptness and completeness of those returns required by law, the health officer will get as good results by force as by willing compliance, but, assuming even that the reports themselves are as complete, or even more complete, the health officer may well consider whether in securing this one result he is not doing so at too great a cost. The physician who has once been haled into police court and fined is not going thereafter to have friendly feeling towards the health officer through whose act he was publicly held up as a law violator, and where many physicians in a community have been thus dealt with, the health officer has made just that many enemies, or at least failed to make just that many friends among a group where friendship means so much, for, in addition to the furnishing of such reports as are required of them by law, there are many most important ways, not covered or coverable by law, in which the physicians of a community can be of inestimable help to the health authorities.

Most important of all is the influence which the physicians of a community can exert in bringing the general public to an appreciation of the work which the health authorities are doing. We well know that no health measures can be for long successfully enforced

unless the people so desire. Health Departments have many duties in the exercise of which individuals are temporarily inconvenienced and many others which for their success depend on active co-operation on the part of the people. To have the doctors of a community in their daily rounds upholding and commending the work of the health department has value greater than can well be expressed.

In the next place, every health department recognizes its own weakness in securing co-operation of the people in general measures of personal hygiene. Yet the carrying out of these measures is, in its collective results, of equal importance with those measures of general sanitation which the health department itself can directly enforce. No single agency, unless it be the schools, can accomplish as much in instructing the people in measures of personal hygiene and in actually inculcating health habits among the people as can the doctors.

In the two ways just mentioned, the co-operation of the medical profession is invaluable because, next to the health authorities themselves, the doctors are best versed in matters of sanitation and personal hygiene, and also because in many instances the word of their own doctor is accepted by the people in preference to that of the health authorities.

There is a third way in which the individual physician can be of great aid to the health officer, namely, by assisting in the securing of health legislation and appropriations for health work. There are times when a word from the family physician to his councilmanic patient will have greater influence than the arguments of the health officer in securing necessary votes for the above purposes.

In addition to individual effort, there are important ways in which the medical profession, collectively, can serve the cause of public health in a community. From time to time every health officer has to meet acute situations in which public sentiment needs to be strongly and quickly aroused. Here no outside help is comparable with that which can be had through action by the local medical society. This help may be in the shape of formal resolutions, or, even more effective, special committees may be appointed to co-operate with the health officer in such ways as he may suggest.

The ways in which the health authorities can serve the medical profession in any community may be divided into two classes; first, those things which, done by all efficient health departments in the regular routine of work, are, in one way or another, of service to the doctor, and, second, those things which are not so generally recognized as important but which are regarded as distinct adjuncts by the thoughtful health officer, and which bring most decided benefits to the physicians of the community.

Every health department, in its regular course of routine work, makes available for the physicians a laboratory where specimens of

many kinds submitted by the physician himself are examined for the purpose of assisting in arriving at a diagnosis. In most health departments today there is also furnished a consulting service for acute contagious diseases, for tuberculosis and for venereal diseases, on which the doctor may call and secure the aid of men expert in these particular lines.

Next may be mentioned the furnishing of free antitoxins, vaccines and other biological products, thus enabling the physician, without cost to the family, to give the most accepted form of treatment.

Much of the advice which every health department gives the people for their own benefit must, if followed, incidentally bring in an immense amount of practice to the doctors of the community. All health authorities advise the people to have routine physical examination and to call in a physician for slight ailments rather than wait until a serious, or perhaps an incurable condition has been brought about. We strongly urge mothers to have their babies under regular supervision by the doctor during their first year, without waiting for symptoms of illness.

We advise the people to consult their doctor for those conditions which are known frequently to develop into cancer. We advise the pregnant woman to employ a physician as soon as her condition is known to herself and to visit him at least once a month up to the time of delivery and at least once several weeks after delivery, so that any damage which may have been done can receive attention.

The child, after its first year and up to the time of entering school, should be regularly seen by the family physician. We should teach parents that the welfare of their children is primarily their own responsibility, and that the public authorities come in only where this responsibility has been neglected.

The present absurd state of affairs cannot be allowed to continue, of waiting until a child enters school to find defects which should have been recognized and corrected years before. We therefore, as health officers, stand solidly back of any movement which will make it accepted practice to have the family physician not give up his responsibility when the baby is one year old but have him continue his visits, at least once a year thereafter, for the recognition and correction of defects and for general advice concerning the child's welfare. If this is done, most children will enter school well nourished and without defects which handicap them in their progress and which, if corrected during the school session, involve weeks of inefficiency until there has been recovery from the operation itself and time for the benefits to develop.

We advise that, during this pre-school period, the family doctor should attend to vaccination, to the administration of the Schick test, followed by toxin-antitoxin if indicated, and, if thought desirable, to the giving of the typhoid prophylactic.

All the matters above just mentioned are measures adopted in the course of the health department's routine work and in the discharge of its duty to the public. The benefit to the physicians of the community, though great, is incidental. The conscientious health officer can and will, however, do many other things which will be of great benefit to the medical profession of his community. In the daily rounds of himself and his subordinates, many homes will be visited in which they hear expressions of dissatisfaction with their own doctor or criticism of the medical profession in general. In such cases the health officer and his assistants can do much to uphold the physician and to correct false ideas concerning medical practice as a whole.

Outside the ranks of the medical profession itself no one so well knows as does the health officer the danger of the many irregular forms of practice now offered the public. Unfortunately, not even the more intelligent classes seem to realize the very simple fact that the regular practitioner of medicine avails himself of all measures which have been proved to be of benefit in the handling of disease, nor do they realize that by no possibility can anyone be held competent to deal with the sick unless he has had years of training in certain indispensable fundamentals.

* * * * *

It is as much the duty of the health officer as it is to the interest of the doctors to combat this tendency on the part of the people to seek the aid of practitioners of all manner of "pathies" and "isms." If anyone is disposed to question this statement, let him picture the public health situation in a community in which everyone was a disciple of some irregular cult! The health officer can preach the inadequacy of the danger of these cults and not have selfish interest charged against him.

We have here a splendid illustration of the interdependence between the medical profession and health authorities. If the word of the health officer is to be accepted by the public he must himself have their confidence, and no agency can so build up confidence in the health officer as can the medical profession. Therefore, in helping to increase confidence in the health authorities, the doctor is increasing the weight of such advice as the health officer gives the people in matters such as that under discussion.

On the other hand, when the health officer upholds the doctor, he, in turn, is giving additional weight to what the doctor may say concerning the health department.

* * * * *

Cold recognition of the facts above considered and of others which limitations of time and space make it impossible to include can hardly fail to show health officers and doctors alike how greatly

the full success of each is dependent on the other, but if, instead of such calculating of advantages to be gained, we can all learn truly to respect and admire the work of the other and to extend to each worker the hand of good fellowship, as to a brother, then I am sure even closer co-operation, even more brilliant results, will follow, to the everlasting credit of each and to the benefit of a world which now, more than ever, needs the best that each of us can give.

HEALTH AND NUTRITION CHART



PHILADELPHIA CHILD HEALTH SOCIETY
 1506 LOCUST STREET
 PHILADELPHIA, PA.

The above chart, together with a four page leaflet in explanation, was prepared by Anna L. DePlanter, B. S., and is issued by the Philadelphia Child Health Society, 1506 Locust Street.

Here we see encircling "Good Nutrition", which is the foundation or hub of good health, contributing factors spaced in accordance with the author's idea of their relative importance.

In her leaflet under "Proper Mental Attitude", she stresses cheerfulness and the influence of home environment as the index of the future mental reactions of the child.

Under "Physical Examination and Correction of Defects", she refers to teeth, tonsils, vision and the various causes of malnutrition.

"Adequate Sleep and Rest" are necessary for growth and repair.

"Food" is fundamental.

Of "Correct Eating Habits", she enlarges upon regularity of meals, mastication, cheerfulness at meals, drinking water and clean hands.

Under "Elimination", she refers to constipation with its untoward effects, the use of laxative fruits, water, exercise and the avoidance of drugs.

Under "Posture", she cites food, sleep and exercise as necessary for muscular development and adds that posture affects digestion, circulation, elimination and respiration.

She points out "Sunshine and Fresh Air" as encouraging growth; exercise and play as necessary for development and especially needed by adults of sedentary occupations.

Under "Personal and Home Hygiene", she includes brushing of the teeth, examination by the dentist, drinking plenty of water, bathing and general cleanliness.

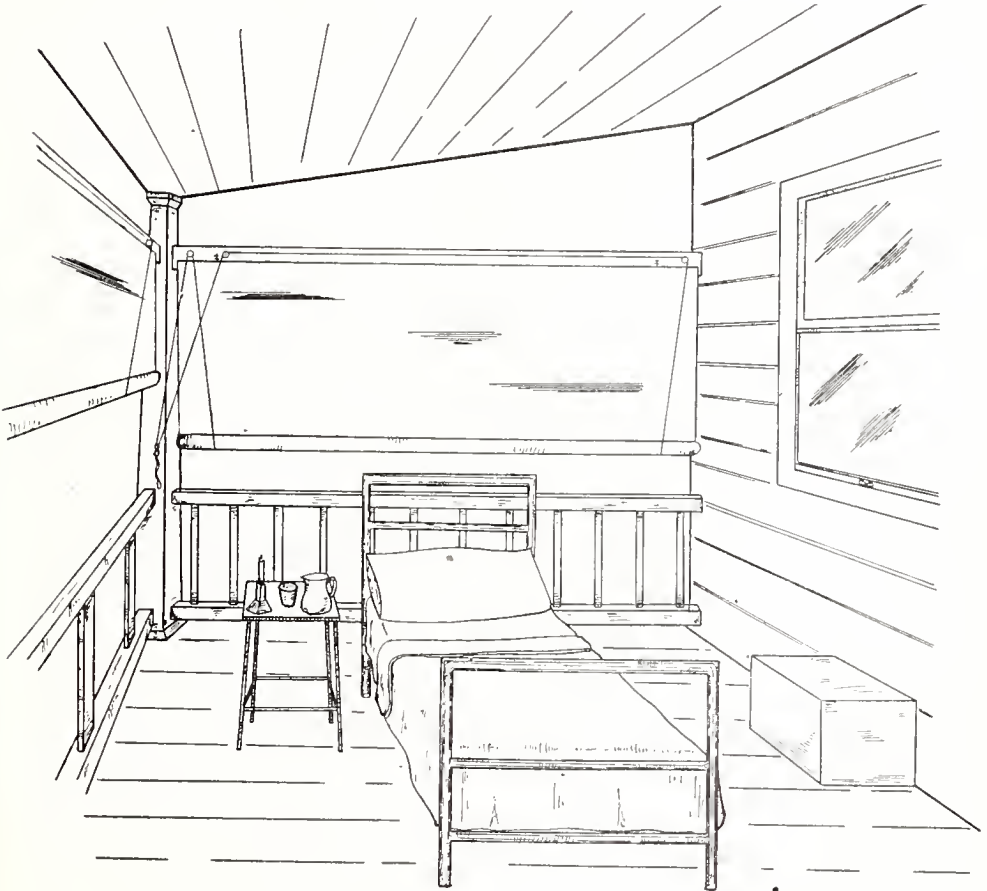
A HOMEMADE SLEEPING PORCH

A. J. Bohl.*

A porch or outside balcony of a home can be readily converted into a sleeping porch at little expense.

The entire porch, or any section of it, can be used. Three curtains are needed, two for the sides and one for the front, the house making the fourth wall. The curtains should be of duck or canvas, preferably the material used in army tents. They should be sufficiently wide to cover completely the spaces for which they are intended, and should be four inches longer than the distance from the cross piece beneath the eaves to the floor. They should be hemmed at top and bottom, the bottom hem being wide enough to carry a fairly heavy round pole, the weight of which will keep the curtain taut and remove the slack in raising and lowering.

In the top hem, about one inch from the edge, small brass or galvanized iron grommets or rings should be sewed into the canvas eight inches apart. A six-inch board, one inch thick, is nailed or



screwed beneath the eaves of the porch in front, from which similar pieces run across the porch and are fastened to the house wall. To these boards the curtains are hung, using the ordinary one inch screw eyes screwed through the grommets, or the curtain may be nailed or tacked to the cross piece, doing away with grommets and screw eyes.

For each curtain three small awning pulleys are required. They are fastened to the board to which the curtains are hung, one about three inches inside the edge of the curtain at one end, and the other two at the other end, one about three inches and the other about five inches from the inside edge. One end of a long eighth inch cotton rope is passed up behind the curtain and is nailed to the piece on the outside, or tied into a screw eye. The other end of the cord is brought up in front of the curtain and passed through the pulley toward the center of the curtain, letting the curtain lie in the loop, and then carried across to the inside pulley at the other end through which it passes in the same direction. The third pulley is now threaded toward the center of the curtain, and the end of the cord brought down under the curtain and up on the outside, where it is fastened in a manner similar to the other end of the cord.

The curtain will now hang in two loops of the cord, while a free loop will hang from the two pulleys at one end. Pull on this loop and the curtain will rise smoothly, loosen it and the curtain will drop. The cord should be long enough to permit the curtain to be lowered to its full extent, and a nail or some device furnished to hold the curtain at any desired height.

The triangular space between the top of the curtain and the roof of the porch should be boarded up; if only a section of the porch be used, it should be boarded up at the exposed end and the center space left open for ventilation. Nail a strong cord to each end of the pole so that it can be tied to the porch railing during wind storms. In clear weather, the curtain should be rolled up except on the side from which the air current is coming.

The sleeping porch should contain a bed and a small table. An iron or brass single bed will occupy a minimum of space. Avoid coarse and heavy blankets. Light, soft woolen blankets are much warmer and keep the patient more comfortable. Be sure that sufficient blankets are provided to keep the patient warm in cold weather. A thick layer of newspapers under the mattress will be of great value in preventing cold from penetrating.

During cold weather, the patient should always have a heavy silk or light knitted woolen cap pulled down over the ears, and wear warm flannel night clothes. A hot water bottle, or hot brick wrapped in a towel, placed at the foot of the bed, will give the patient much comfort. A woolen sweater and gloves are also most essential in winter. High bedroom slippers and a woolen bathrobe should be kept beneath the covers for use when necessary.

If a balcony or porch be used where there is no door, a box may be placed beneath the window to enable the occupant to enter the warm room with ease.

The table should be provided with a candle for light in preference to a lamp, as it is more economical, easier to light and less dangerous. A pitcher of water, drinking glass and other comforts and necessities should be provided. Paper napkins, sputum cups, covered pail and bed urinals should be at hand for the patient's use.

*From the Division of Tuberculosis, Bureau of Communicable Diseases, Pennsylvania State Health Department.

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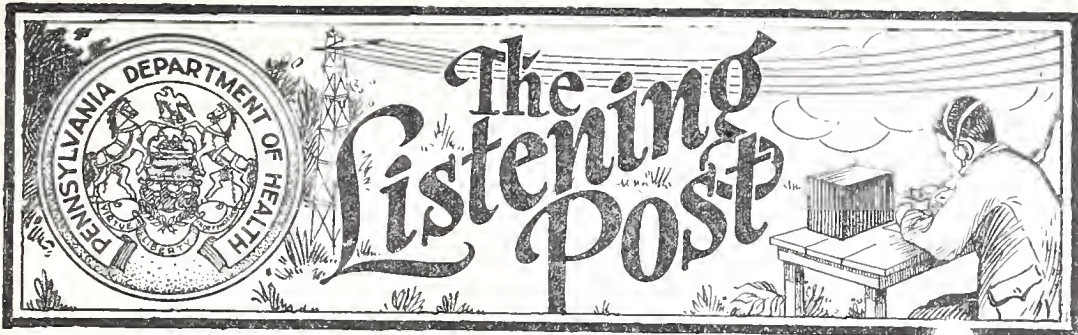
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ISSUED MONTHLY

By The Pennsylvania Department of Health

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The Health Gnome Says

Have a Health Examination on your birthday.
If today isn't your birthday,
Have a Health Examination any way.



The Listening Post

A MONTHLY JOURNAL OF PUBLIC HEALTH

Editor
William C. Miller, M. D.

Address communications to The Listening Post,
Pennsylvania Department of Health,
Harrisburg, Pennsylvania.

Vol. II

Harrisburg, Pennsylvania, May, 1924

No. 14

"Acceptance for mailing at special rate of postage provided for in section 1103,
Act of October 3, 1917, authorized April 6, 1923."

70+ Again.

A number of letters has been coming to the "Listening Post," inquiring as to the meaning of the cryptical sign on its envelope.

Do you remember those days, when your mother used to tie a string around your finger to remind you, not to forget to bring home a spool of number 80 black thread?

Pursuant to the same kind of result, it is hoped that every time your eye alights on 70+, you will be reminded of what it stands for. It means that it is possible to pull down the stone, that marks three score and ten as the end of life's highway, and set it at 70+ which is beyond the hill and out of sight.

The five diseases of middle and after middle life, which exact the heaviest toll from mankind, are: Bright's disease, Cancer, Diabetes, Heart disease and Tuberculosis. All are slow of development, all are preventable and all yield, to a greater or less degree, to treatment. All are fatal, if uncared for.

If you have a health examination today and your physician gives you a clean bill of health, so slow is the development of these degenerative diseases, that you may feel quite secure for at least a year.

It has been suggested that your birthday be chosen as the time to have your health examination, because it is a

day you will surely remember and the habit once established, the day will remind you, like the string around your finger or the 70+ on the envelope. You can help spread the propaganda of 70+; put the sign on the back of every letter you write. To them who know, it will be a reminder—to the others, something to inquire about. 70+ means a health examination on your birthday, and a health examination on your birthday means more birthdays.

W. C. M.

CAMP OF INSTRUCTION.

The annual Camp of Instruction at Mont Alto will be held beginning June 23rd. On account of the somewhat limited tentage, it will be impossible to have the entire group arranged for, at the same time.

The camp will be divided into two sections, the first section to arrive on Sunday, June 22nd and be ready for work at 8 A. M., June 23rd. There will be an intensive course of 2½ days in child health, tuberculosis and county health administration. The first class will finish its work at 12 o'clock, Wednesday, June 25th.

The second class will arrive in the afternoon of that day, beginning their work at 8 A. M. Thursday, June 26th, completing its program Saturday at noon, June 28th.

The course this year has been laid out with great care and it is promised that there will not be a dull moment during the whole week.

In addition to physicians and nurses officially connected with the Department, invitations have been extended to a number of lay health workers, who have been of help to their own communities and the State Department, and who desire to know more about health administration.

MAY DAY HEALTH PROGRAM.

Several months ago the National Child Health Association issued the suggestion to all State Departments of Health that May first should be celebrated as Children's Day and that all May Day programs should emphasize the things which are being done for the promotion of Child Health. Secretary of Health, Dr. Charles H. Miner, gave his ready approval and requested his large force of field workers, in their respective localities, to co-operate to their utmost ability toward making the local program a success.

Of all counties reported so far, Dauphin County, under the leadership of Mrs. Lyman D. Gilbert, had the most complete program. She was assisted by the following local Chairmen:—

Mrs. J. I. Chamberlain	Harrisburg
Mrs. D. P. Deatrick	Middletown
Mrs. W. J. Durbin	Williamstown
Mrs. Glennie Rickert	Halifax
Mrs. C. C. Cocklin	Dauphin
Mrs. W. R. Esbenschade	Hershey
Mrs. Robert Day	Millersburg
Mrs. Frank Robbins	Steelton
Mrs. E. Kirby Lawson	Penbrook
Mrs. F. M. Fisher	Edgemont
Mrs. J. F. O'Neill	Paxtang
Mrs. John Lehr	Lykens
Professors Wetzell & Moyer	Linglestown
Miss Elizabeth Driscoll	Wiconisco
Parent-Teachers' Organization	Hummelstown

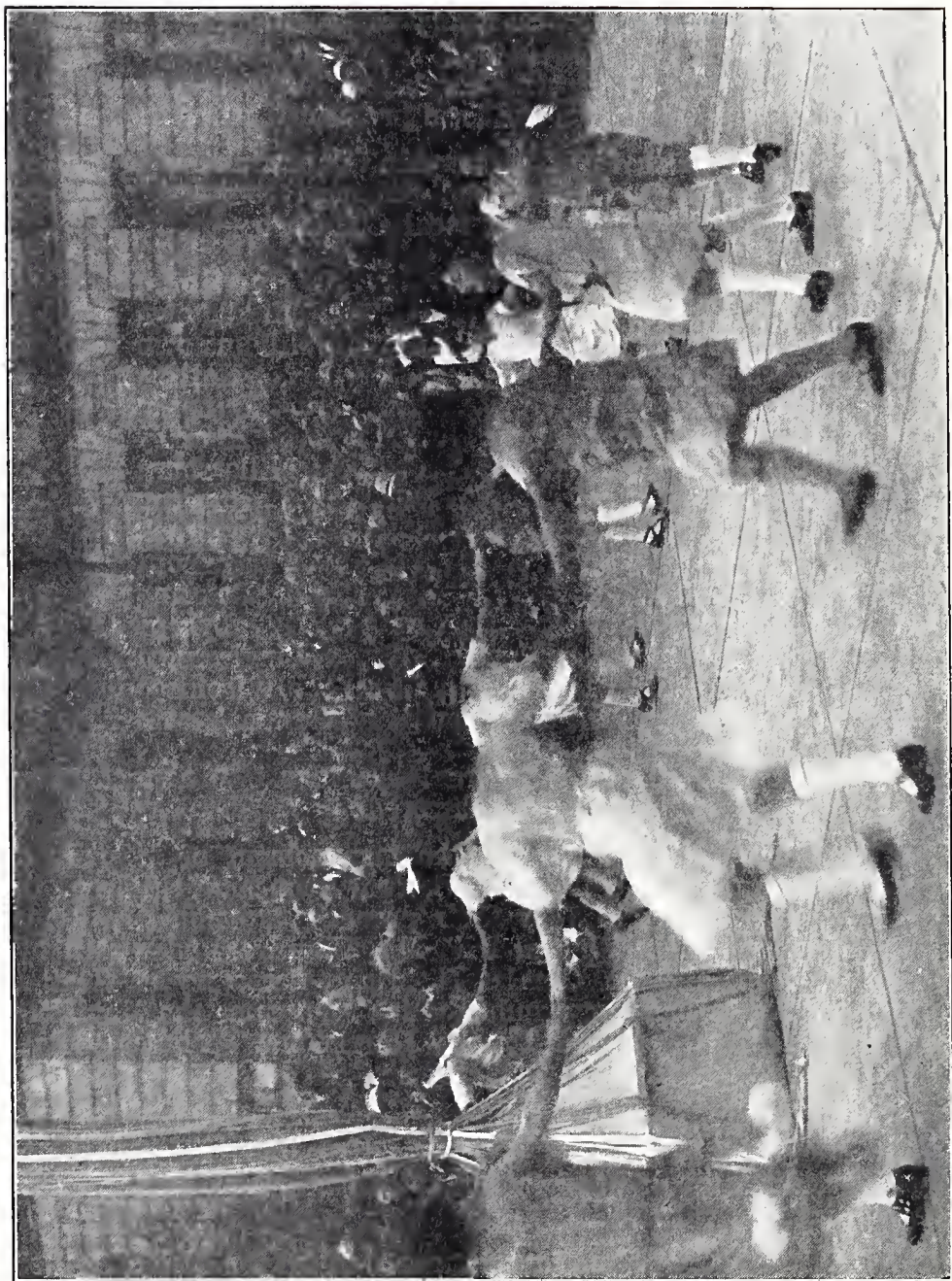
The programs varied in the different localities. In almost every instance the May Pole Dance was observed.

The Harrisburg program, under the management of Mrs. J. I. Chamberlain, was very elaborate. Several thousand children, in many instances accompanied by their parents, assembled in front of the State Capitol Building at 2 P. M. They were addressed by Governor Pinchot and Dr. Charles H. Miner, Secretary of Health, after which health songs were indulged in; then came the May Pole Dance. Music was rendered by the Harrisburg Technical High School Band.

Health exhibits were tastefully arranged in the rotunda of the Capitol, and many useful object lessons were demonstrated in a manner reflecting credit upon the organizations which were responsible for them.

At 4 P. M. child health motion pictures were shown in the Hall of the House of Representatives. The entire space including the gallery was crowded to capacity.

It was the first May Day health celebration for Harrisburg and was voted a complete success. The illustration shows the May Pole dance as it was in progress.



HEALTH SCRAP BOOKS,
Successful Feature of May Day at Wilkes-Barre
By Miss Roller

The committee in charge of plans for the observance of Child Health Day at Wilkes-Barre, decided upon a health scrap-book contest among the school children as the major feature of their work, as it was felt that such a contest would be the best means of bringing, not only the children, but parents as well, to think about child health. The superintendent of public schools, a member of the committee, readily gave his consent to getting the plan before the children through the schools. A notice was sent to the principal of each school, giving an explanation of what was desired and the few simple rules to be observed.

The scrap-book was to be an expression of the child's ideas of good health habits as brought out in one day of his life. Pictures cut from magazines to illustrate these ideas were explained by means of a rhyme or short sentence. The best books gave an orderly progression of activities beginning with the morning bath and ending with "early to bed."

The first prize book for eighth grade pupils had as cover design a map of the United States, outlined in pen and ink, with the title "Good Health Will Build a Mighty Nation." The pages with appropriate pictures were labeled as follows:

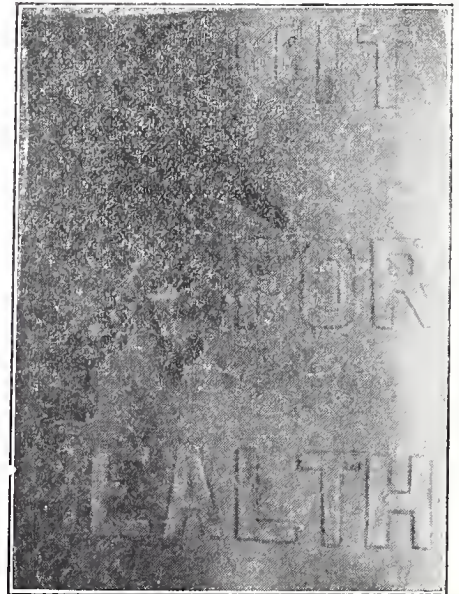
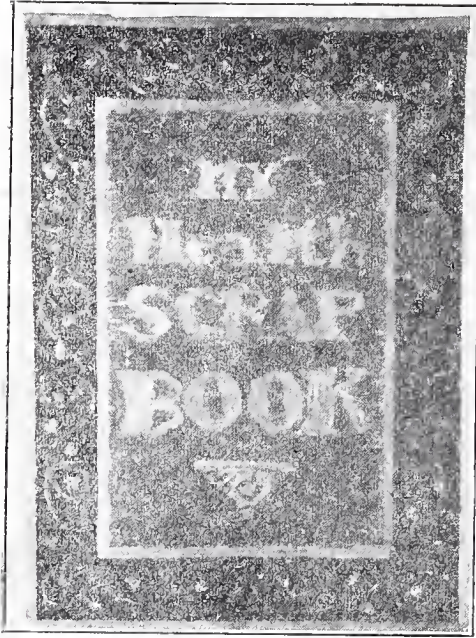
Early to bed and early to rise makes a man healthy, wealthy and wise.
Teach the children good habits (with pictures of children brushing teeth).
Start the day right with good wholesome food.
Outdoor exercise is necessary for health.
Bread and milk for the mid-day lunch.
Boys and girls want to grow—eat vegetables.
Sunshine and fresh air make children healthy and fair.
An apple a day will keep the doctor away.
Insure good health by developing your body.
Brush your teeth both morning and night.
Sleep with windows open.

Some of the books were remarkable for their artistic beauty and the originality shown in selection of pictures and rhymes, or slogans, as the accompanying illustrations will testify.

A first prize of \$2.50 and second prize of \$1.00 were given for the winning books in each of the eight grades, making a total of sixteen prizes. This money was donated by the local Exchange Club, Lions' Club and Boston Store. Honorable mention was given to all books which the judges felt showed a clear understanding of good habits of health. Each teacher picked out her three best books which were sent to the judging committee, who made the final selection from several hundred submitted. The judges were a physician, a school nurse and the chairman of the Child Health Day Committee.

Considerable publicity was given the contest in local papers and much interest was shown by the public. The prize books were placed on exhibition at the public library, and those receiving honorable mention were used as a basis for health instruction in a class of immigrant mothers.

The Wilkes-Barre committee recommends the scrap-book idea as a successful means of health education.



COMPARATIVE STATISTICS

By W. R. Batt, M. D.

The comparative incidence of certain communicable diseases from month to month and for corresponding periods of other years frequently gives rather a striking illustration of just how widespread are these infections.

The urban classification of Pennsylvania includes all incorporated municipalities within the State and comprises 70% of the total population, the remaining 30% being distributed in townships in which sections the State Department of Health is responsible for the administration of health activities.

It will be noted that for the First Quarter of 1924 Diphtheria in rural districts comprised only 23% of the total. For the same period of 1923 it comprised 33%.

		Jan. 1924	Jan. 1923	Feb. 1924	Feb. 1923	Mar. 1924	Mar. 1923	Total for 3 mcs. 1924	Total for 3 mos. 1923
Chickenpox	Total	3935	3004	3389	1681	3216	1365	10540	6050
	Urban	3058	2290	2549	1247	2561	987	8168	4524
	Rural	877	714	840	434	655	378	2372	1526
Diphtheria	Total	1712	1661	1449	1355	1280	1327	4441	4343
	Urban	1425	1247	1143	992	1031	1017	3599	3256
	Rural	287	414	306	363	249	310	842	1087
German measles	Total	157	121	193	118	777	116	1127	355
	Urban	135	104	132	94	704	93	971	291
	Rural	22	17	61	24	73	23	156	64
Measles	Total	2366	20620	2981	20943	3695	17667	9042	59230
	Urban	1508	15017	1998	15039	2640	12351	6146	42407
	Rural	858	5603	983	5904	1055	5316	2896	16823
Mumps	Total	1810	666	2504	625	3450	765	7764	2056
	Urban	1518	545	1865	485	2658	598	6041	1628
	Rural	292	121	639	140	792	167	1723	428
Lobar pneumonia	Total	714	1076	653	1100	838	994	2205	3170
	Urban	680	1048	620	1050	821	956	2121	3054
	Rural	34	28	33	50	17	38	84	116
Scarlet fever	Total	2210	1813	2298	1491	2154	1674	6662	4978
	Urban	1600	1193	1544	930	1476	1109	4620	3232
	Rural	610	620	754	561	678	565	2042	1746
Smallpox	Total	18	4	11	1	19	12	48	17
	Urban	17	4	8	1	18	11	43	16
	Rural	1	....	3	....	1	1	5	1
Tuberculosis	Total	509	616	464	472	546	672	1519	1760
	Urban	483	537	441	430	506	623	1430	1590
	Rural	26	79	23	42	40	49	89	170
Typhoid fever	Total	105	153	127	103	74	73	306	329
	Urban	65	78	83	46	50	51	198	175
	Rural	40	75	44	57	24	22	108	154
Whooping cough	Total	1325	1395	1411	1321	1663	1629	4399	4345
	Urban	995	968	1016	889	1226	1229	3237	3086
	Rural	330	427	395	432	437	400	1162	1259

German measles which has been considerably more prevalent during the present year shows a large proportion of cases in urban districts.

Perhaps the greatest variation in incidence is to be found in Measles, the epidemic of 1923 in which 59,230 cases were reported during the first three months having declined to 9,042 for the same period of the present year. The relative distribution of this disease between urban and rural was 47% rural in 1924, as compared with 39% rural in 1923.

It will be noted that Scarlet fever has been somewhat more prevalent than during the previous year. The relative distribution of this disease was 44% rural in 1924, as compared with 54% rural in 1923.

Typhoid fever shows 54% rural in 1924 as compared with 88% in 1923, which indicates rather clearly that what remains of this disease in Pennsylvania is largely a problem of rural sanitation.

Whooping cough in its distribution very closely approximates the normal distribution between urban and rural districts.

The distribution of Smallpox is indicated, not on account of its prevalence, but rather for the interest and anxiety which always accompanies the existence of this disease.

COMMUNICABLE DISEASES IN PENNSYLVANIA DURING THE MONTH OF APRIL, 1924.

By W. R. Batt, M. D.

The advent of spring and the closing of many schools usually witness a decline in those diseases peculiar to the early age periods. April, 1924, was no exception in this respect.

As compared with March, there was a decrease of 803 cases in Measles, 476 in Scarlet fever, 370 in Whooping cough, 235 in Diphtheria and 997 in Chicken pox. These declines were rather uniform throughout the State and applied to the rural as well as urban population.

For all diseases the urban decrease in the number reported was 1,879 and the rural decrease was 576. As between urban and rural districts the population is distributed in the proportion of about 70 and 30%. There was an absence of any real epidemic areas, and the most serious of the diseases mentioned show a very wide distribution.

Of sixty-seven counties in the State, Diphtheria was present in fifty-seven and Scarlet fever in sixty-two. In marked contrast with these conditions, the 55 cases of Typhoid fever reported for the entire State existed in only twenty-four counties, and fourteen of these counties had only one case.

The monthly morbidity rate per 100,000 of population for the entire State for Typhoid fever was 0.60, the lowest in reported history. The relatively high spots in the State were Adams, Bedford, Greene and Juniata Counties, all distinctly rural in character. But the existence of 2 cases in the first mentioned and only one case in the others named

was sufficient to give them their high rating in comparison with the State-at-large. A few short years ago such rates for Typhoid fever would have been considered more or less of a dream.

The eighteen cases of Smallpox reported for the month of April were located as follows:

<i>Urban</i>		<i>Rural</i>	
Pittsburgh, Allegheny Co.	3	Clearfield County	6
New Brighton, Beaver Co.	1	Washington County	1
Johnstown, Cambria Co.	4		
Chester, Delaware Co.	3		

The single case of Anterior poliomyelitis reported was from Philadelphia.

The eight cases of Encephalitis lethargica for the month were located as follows:

<i>Urban</i>		<i>Rural</i>	
Pittsburgh, Allegheny Co.	1	Schuylkill County ...	1
McKeesport, Allegheny Co.	1		
Philadelphia	4		
Manor, Westmoreland Co.	1		

The number of communicable diseases for the month by urban and rural districts was as follows:

	<i>Total</i>	<i>Urban</i>	<i>Rural</i>
All diseases	15,340	11,881	3,459
Anterior poliomyelitis	1	1	0
Chickenpox	2,219	1,794	425
Diphtheria	995	751	244
German measles	1,058	909	149
Measles	2,892	2,101	791
Mumps	3,501	2,699	802
Pneumonia (true)	1,041	1,013	28
Puerperal fever	10	10	0
Scarlet fever	1,678	1,117	561
Smallpox	18	11	7
Tuberculosis	571	533	38
Typhoid fever	55	38	17
Whooping cough	1,293	897	396
Encephalitis lethargica	8	7	1

THE TUSSOCK MOTH.

By A. B. Champlain, Dept. of Agriculture.

A State-wide campaign against the white-marked tussock moth early this summer is urged by the Bureau of Plant Industry, Pennsylvania Department of Agriculture. School children and scout organizations are suggested as effective means of controlling the pest, which causes extensive damage to shade and fruit trees in this State every year.

The caterpillar of the tussock moth, the chief defoliator of shade trees in Pennsylvania, is twice unwelcome because of the unsightly appearance caused by the plastering of cocoons and egg masses on the trunks and larger branches of trees and on adjacent buildings.

There are two broods of the moth each year in Pennsylvania and nearby states, the first appearing in May. The insect spends the winter as an egg in conspicuous, white, foamy egg masses which contain from 100 to 400 eggs. The eggs hatch in May and the small caterpillars feed on the underside of the leaves. As they increase in size they eat the larger portions, until all but the largest veins are devoured. They prefer leaves of poplar, horse chestnut, soft maple, elm, linden, and most varieties of fruit trees.

The caterpillars are of striking appearance, being marked with beautiful colors and long black plumes. A pair of plumes protrude over the bright red head and a single plume rises from the opposite end of the body. A broad black band, bordered with yellow, extends the full length of the back. Four white brushlike tufts of hair, or tussocks, stand upright in a row on the back, and from these the moth derives its name.

These destructive pests may be controlled with relative ease. A thorough spraying of the foliage with lead arsenate, one and one-half pounds of the powder to 50 gallons of water, during June will destroy the first brood. A second application in August will clean up the second brood, if the first spray does not completely answer the purpose. Scraping off and burning the egg masses is another means of control. A sponge soaked in crude creosote, mounted on a long pole and pressed against the egg masses, is also an effective treatment. Banding trees with sticky substances is not considered a satisfactory means of controlling this insect.

THE HEALTH OFFICER IN THIRD CLASS CITIES

By Thos. Herbert, Altoona, Pa.

Many and perplexing are the problems confronting the Health Officer of a Third Class City,—from settling back yard disputes to finding the source of infection in an outbreak of communicable disease,—and it requires as much patience and diplomacy to solve the one problem as the other.

Twenty years ago the Health Officer of a Third Class City was simply a policeman, whose duty it was to secure the abatement of

nuisances, to placard and disinfect houses and to remove the placard at the end of a stated period. He was not expected to know any reason for his actions, other than, these things were required by law. He was clothed with almost arbitrary power, exceeding that of a policeman and in most instances he exercised that power to the extreme. The Health Officer of today has equal power and authority; and it is necessary that it should be so, but drastic measures should be used only after all other means fail. The Health Officer who is continually wielding the big stick is not to get very far in the improvement of health conditions in his community. The reduction of the morbidity and mortality rate cannot be brought about by such methods.

There are many demands upon the time of the Health Officer and the appropriation at his disposal is usually limited. He must carefully formulate plans to secure the best results in the saving of lives and the prevention of illness. He must get away as far as possible from the wasting of time and energy on nuisances which have no appreciable effect on the real problems of health conservation: in seeking the sources of infection of an outbreak of communicable disease, he no longer expects to find them in piles of rubbish, defective plumbing or garbage cans. He must educate his people as to what is important in the war against disease and what is not. The conquest of disease involves the widest cooperation of all the people and they must have a fair understanding of the measures necessary for its control and prevention. To accomplish this the Health Officer should make the dissemination of health information a leading feature of his work. It can best be done by articles in the daily newspapers wherein space is always available for matters relating to Public Health.

From the year 1908 to the year 1913, both inclusive, Altoona had an annual average of 34 cases of typhoid fever directly traceable to the milk supply. During 1913 the first report of the New York Milk Commission containing regulations for the pasteurization and proper care of the milk supply was issued. The Altoona Board of Health became interested in the adoption of these regulations. At that time there were 61 milkmen in the city delivering milk by the "can and dipper" method. These men with few exceptions strenuously opposed the change. They told the milk consumers the price of milk would be doubled, that pasteurization would destroy the food value of the milk, etc. Protests came in from every section of the city. Then the Board of Health began a campaign of education. Short articles calling attention to the experience of each succeeding year with milk borne typhoid and describing the dirty methods of handling milk were published in the daily papers. Talks were given to civic organizations. A full explanation of the new rules and the reasons for the change were given to the milkmen at a meeting of the Milk Dealers' Association. Twenty of the leading physicians of the city were called together and were made acquainted with the purpose of the Board of Health. With one accord, they approved the rules and their action was given wide publicity. Later a meeting of the milkmen was called; and after all objections had been heard and answered, a majority favored the change. The protesting voice of the

people gradually grew fainter; and five months from the time the educational campaign began, the rules were adopted by the Board of Health and unanimously approved by the City Council. And it is worthy of note, that in the ten years since the adoption of these rules, there has not been a single case of typhoid fever traceable to the milk supply.

Published articles on health matters should be brief, because the general public—the people to be reached—will not take the time to read long dissertations.

The monthly reports of the Department of Health should contain a short article each month on the particular disease that has been most prevalent during the month. The item should contain something about that disease, its cause, how it spreads and how to prevent it. These reports should occupy a prominent place in the newspapers of the city. In his educational work the Health Officer should avoid the use of technical terms. The Health Officer frequently has an opportunity to carry health education personally to the individual. Take, for instance, the matter of quarantine. When someone resents the placarding of his house, the tactful official will, by explaining what the quarantine really means, entirely remove the opposition. The trouble is, many Health Officers are apt to say, "Well, that's the law and I can't help it."

The Health Officer should enlist the support of civic organizations whose members are always interested in the betterment of community conditions and the promotion of the welfare of all the citizens. He should give them talks on health subjects whenever opportunity offers. Another fertile field for health work is in the schools of the city. The school authorities make every effort to reduce absenteeism; and when the Health Officer can show them that every step taken in the prevention of the diseases of childhood is a step in that direction, he will receive their hearty cooperation in his work. There are few teachers who will not do what they can to assist, when they are brought to realize that the exclusion from school of one child, having a sore throat or skin eruption, may save the absence of a dozen or more a week later. When an epidemic of some child's disease threatens, a letter of instruction, written to the teachers and approved by the Superintendent of the School, will have a good effect.

The attitude of the Health Officer towards the medical profession is of vital importance. He must have the confidence and full cooperation of the physicians. He must remember that the family physician is regarded by the people as their real advisor in matters pertaining to health, and his assistance and cooperation are invaluable. This cooperation cannot be secured by treating the physician as a potential criminal, who is seeking an opportunity to violate or to evade the law. The great majority of the members of the medical profession will work with the Health Officer in his efforts to control and prevent disease, and it is time enough to display his authority when he finds a physician who does not comply with the law. The Health Officer, if he be physician or layman, should carefully avoid interference with the work of the family physician. His duty is to

ascertain, if possible, the source of infection and to prevent the spread of the disease, leaving to the attending physician the duty of treating the patient.

All sanitary work should be carried on under the direction of the Health Officer. When any doubt exists in the mind of the Sanitary Inspector as to the proper course to pursue, he should refer the matter to the Health Officer. Nine times out of ten the tactful official will solve the most difficult problems without recourse to the law. In the tenth case, when all his tact and diplomacy fails, he must take a firm stand. If forced to prosecute, he must go the limit. Make no compromises, secure convictions and insist upon the full penalty. If he permits withdrawal of the information or suspension of sentences, he is only building for future trouble.

Finally, to be successful, the Health Officer, more than any other worker, must first sense the needs of the community and then in a tactful, patient and persistent manner proceed to bring about the desired conditions by enlisting the cooperation of all the people.

COMPARATIVE POPULATION FIGURES.

Comparison of population in towns under 100,000 in Pennsylvania with other states.

The work of a State Department of Health may be considered as two major parts, to wit: town dwellers or urban population and rural dwellers.

The United States Census divides communities into the following groups above 100,000 in population: from 100,000 to 25,000; 25,000 to 10,000; 10,000 to 5,000; 5,000 to 2,500 and then includes in "rural population" all incorporated places having less than 2,500.

In Pennsylvania we have boroughs with very small population, the smallest with a population of only 81.

If the number of people dwelling on farms, as given in the census, be subtracted from "rural population," the remainder will fairly represent the number of people dwelling in towns under 2,500 in population.

The diagram shows the distribution of Pennsylvania's population in towns under 100,000, in comparison with eleven other states.

This diagram shows that the problem confronting Pennsylvania in towns of 100,000 population or under is equivalent to the work confronting New York and Ohio or New York, West Virginia, Minnesota and Maryland, or California, Virginia, West Virginia, Minnesota and Maryland.

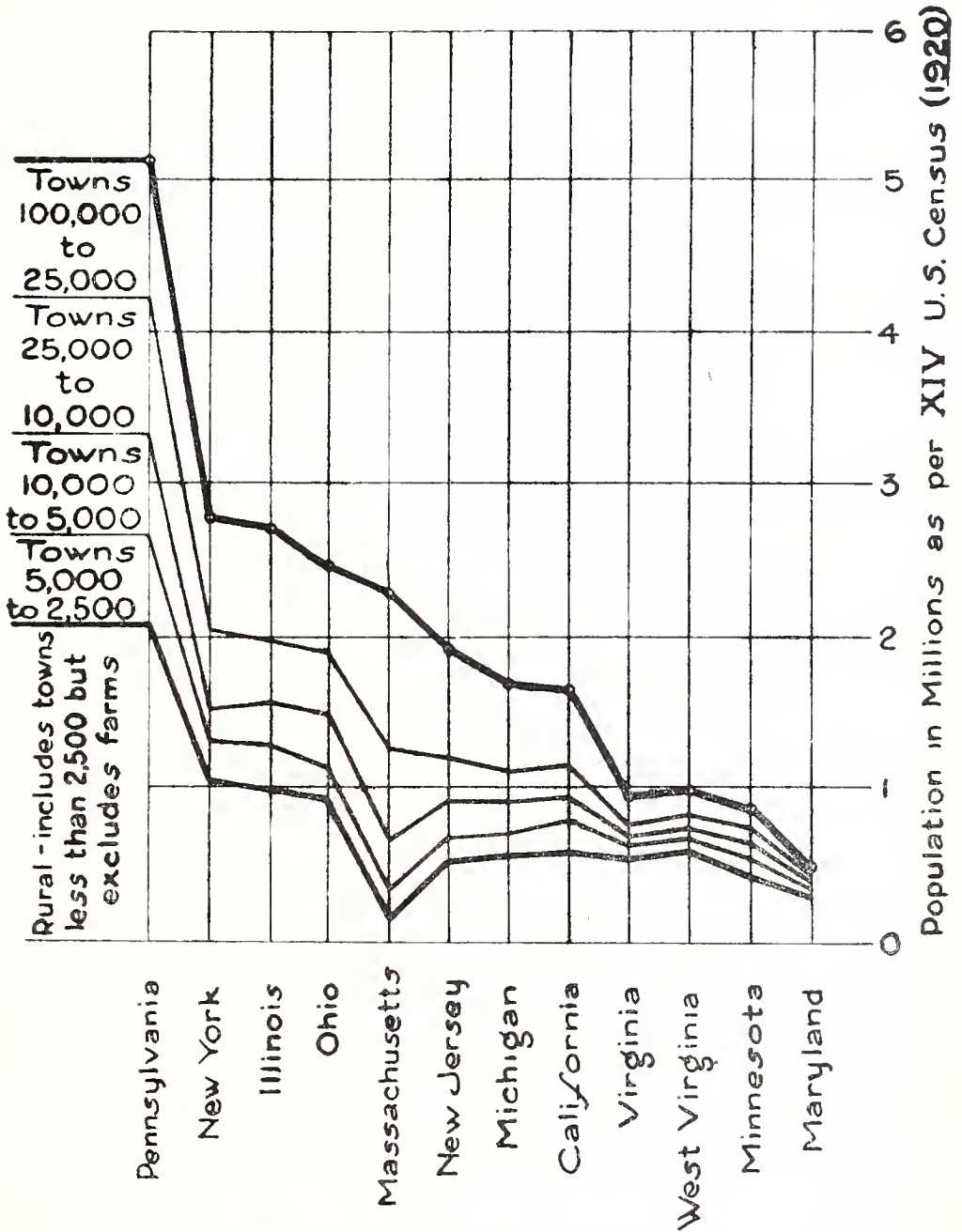
Another way to compare the problem confronting Pennsylvania with other states is to consider that second class townships in Pennsylvania (which by law have a population of less than 300 per square mile) have no Boards of Health and the health laws are administered by the State Department of Health; also, under the Act of 1913, the Department administers health matters in a number of boroughs where the Secretary of Health determines that the existing Board of Health is inefficient.

There are about 1510 second class townships and adding to these the population in boroughs under the control of the Department totals a population of about 2,300,000, for which the Department is directly responsible.

This population is equal to the number of people living on farms in New York, Massachusetts, New Jersey, California, West Virginia and Maryland.

The following table gives an idea of the distribution of population in Pennsylvania from the census of 1920:

668	incorporated municipalities having less than 2500				
	population of which 42% have less than 1000 popula-				
	tion				=2,170,842
144	towns with population	2,500 to	5,000		
93	" " "	5,000 to	10,000		
57	" " "	10,000 to	25,000		
16	" " "	25,000 to	100,000		=2,950,126
4	cities over 100,000				2,657,689
	on farms				941,360
Total population					8,720,017



**DISTRIBUTION OF POPULATION
in TWELVE STATES**

PREVENTION OF GOITER.

By Dr. Lawrence Litchfield.

Any visible enlargement of the thyroid gland is justly called a goiter. The thyroid gland is a horse-shoe shaped organ situated in the front part of the neck just below the larynx or Adam's apple. The thyroid gland belongs to a system of so-called ductless glands. They are called ductless glands or blood glands because their secretions are discharged or secreted directly into the blood vessels, instead of being collected and discharged through ducts as are the secretions of the pancreas or salivary glands. The function of the thyroid gland is to control physical and mental development during childhood and adolescence, and after adult life is reached, to control the rate at which the body tissues are burned, or metabolized,—that is, it has an important regulatory function in the nutrition of the body. It is very intimately related with other ductless glands like the pituitary gland, a certain part of the pancreas which acts as a ductless gland, the super-renal glands, and others. Human beings, or other animals, born with defective or inactive thyroid glands, cannot develop physically or mentally to anything like their normal attainment. The thyroid gland is normally not visible in human beings, being buried in the tissues of the neck and normally not large enough to make any prominence under the skin. The thyroid gland may become enlarged sufficiently to be visible from many different causes. Some of these are apparently harmless, as for instance it is very common in young girls for the thyroid gland to enlarge during puberty, and in women during pregnancy on account of the extra amount of physiological work to be done at those times. Although this is usually harmless, it is not to be regarded with indifference. Such an enlargement of the thyroid, without any signs of thyroid poisoning, is called a simple goiter. The splendid scientific work of Dr. David Marine has demonstrated that simple goiter is due to a deficiency of iodine in the food; and that this iodine deficiency exists in certain parts of the civilized world to such an extent as to make goiters very common there. The Allegheny Valley is such a district. Certain parts of the basin of the Great Lakes is very markedly affected in this way, also Switzerland, Norway and many other parts of the world. If you watch the girls coming out of a high school in Pittsburgh you will notice the majority of them have thyroids that are more or less noticeable. If you watch girls coming from a high school in Boston, or New York, it will be the exceptional girl whose thyroid you can see. Simple goiter sometimes occurs in boys, but much less often than in girls. In these thyroid districts or thyroid belts, so-called, other animals are often seriously affected by goiter. Trout hatcheries, poultry farms, dog kennels, and other animal industries have been saved in different places by the introduction of very small amounts of iodine in their food, or drink, as discovered and taught by Dr. Marine. In some cases these simple goiters entirely, or almost, disappear after the period of development during which they occur, whether it be puberty or pregnancy. In other cases they continue to increase in size and sometimes develop either mechanical or chemical symptoms. By mechanical symptoms I mean interference with breathing or with taking of food, caused by the

pressure of the enlarged thyroid on the wind-pipe, or on the gullet. The chemical symptoms are produced when some unknown cause is added to the iodine deficiency which has produced the simple goiter, the result of the combination being a toxic or poisonous form of goiter. The secretion of the thyroid then has a decidedly poisonous and characteristic effect upon its unfortunate possessor.

Toxic goiters are of two kinds; they usually occur in goitrous districts and very rarely outside of these districts. They may develop in cases that have long shown simple goiter, or they may develop rapidly in cases in which previously the thyroid has not been noticeably enlarged. The two kinds of toxic goiter are,—first, the exophthalmic goiter so-called, also called Graves' disease, or Addison's disease. This disease occurs usually in early adult life, and is easily recognized because the sufferer has apparently enlarged, protruding, staring eyes, as well as the enlargement of the thyroid gland. The symptoms are nervousness, rapid pulse, trembling of the hands, and a trembly feeling throughout the body, very striking fatigue, and marked and rapid loss of weight in spite of the fact that the appetite is unusually good.

Graves' disease, or exophthalmic goiter and diabetes mellitus are the only diseases in which the patient rapidly loses weight while eating more than the usual amount of food. This is due to the fact that the poisonous secretion of the toxic goiter poured into the blood stream causes a great increase in the rate of burning of the tissues in the body.

COURSE OF EXOPHTHALMIC GOITER: The disease may proceed rapidly to an overwhelming toxicity, with **delirium, exhaustion,** and death, or the disease may seem to burn itself out, apparently destroying the gland and leaving in its place a worn-out organ which can no longer perform its function of regulating the nutrition of the body. The patient with a worn-out thyroid can no longer burn the tissues of the body fast enough and in consequence shows an accumulation of fat with a peculiar retention of water in the tissues like dropsy, except that the tissues feel hard and do not pit on pressure. This condition is called myxedema and is accompanied by impairment of all bodily and mental functions. The second form of toxic goiter is called adenomatous goiter. It usually develops in later adult life and is recognized by its irregular or nodular form, instead of the smooth, round development of the simple goiter or the exophthalmic goiter. This irregularity is due to the development of masses of glandular tissue distributed irregularly within the thyroid gland. It most frequently develops in a previously simple goiter and its development is attended oftentimes with severe symptoms, as nervousness, rapid pulse, fatigue, etc. It is not made conspicuous by the pushing forward of the eyeballs. The children of individuals who have suffered from a disease of the thyroid gland are often born with imperfect or inadequate thyroids, and sometimes with practically no thyroids. These patients are born with more or less evidence of myxedema and they fail to develop, either physically or mentally, in a normal manner. Much idiocy occurs in goitrous districts from this cause. Malignant disease of the thyroid also occurs. It often

follows a more rapid course than cancer in other parts of the body, and it is rapidly fatal, emphasizing the great necessity of consulting a physician whenever there is any enlargement in the thyroid region, for a patient with a cancer of the thyroid may be entirely and permanently cured if operated upon early enough.

Toxic goiter, of both varieties, and malignant disease of the thyroid are most apt to occur in individuals with preexisting simple goiter, and inasmuch as simple goiter can be prevented by giving very small amounts of iodine to school children in goitrous districts, one can readily see how important such a course is. Since Dr. Marine gave his wonderful demonstration on the school children of Akron, Ohio, this method of controlling goiter, and of thus preventing human suffering, invalidism, and death has been adopted in various parts of the civilized world, and the results have been particularly satisfactory even in Switzerland where goiter has done its worst work. If you happen to live in a goitrous district where iodine is not given routinely to the school children, you can protect your own children by giving each of them during adolescence 15 gtt. of syrup of hydriodic acid, in one-half glass of water once daily until one ounce has been taken and repeating this course two or three times each year. If the thyroid is already visible, it will cease to enlarge and may even disappear. In any case the iodine which the developing child needs will be supplied.

If iodine has been supplied thus during puberty, it should be supplied similarly in later life during pregnancies.

HEALTH EDUCATION IN THE PUBLIC SCHOOLS.

Joseph Scattergood, M. D., West Chester, Penna.

After observing for several years the medical inspection of schools, I am thoroughly convinced that, aside from its service in the correction of defects, it is of inestimable value from the health education viewpoint.

When the school medical inspection was established by the late Dr. Samuel G. Dixon, Commissioner of Health of Pennsylvania, in 1912, the average school child had slight conception of the value of keeping well, or the methods to be followed to do so. The follow-up of school inspection has shown that the interest in the correction of defects and general health improvement is, not only among the children examined, but extends to the parents as well.

One has but to refer to the number of defective children discovered annually to be convinced that full value has been received for the outlay of money spent for medical inspection of schools. To this value, the health education which extends to the families as well, may be added as a "bonus."

The health education, begun by the medical inspectors, should be continued by the school nurse, or in the absence of a nurse, by the

teacher in the rural districts, where the one-room school buildings predominate. A total of 600,000 school children have been taught the care of the teeth, the demand for better school buildings, more modern ventilating heaters, better lighting conditions, better sanitary conditions in the out-door toilets, better sleeping accommodations at home, especially in regard to the open air and open window sleeping quarters.

As a result of this health education, more visits are made to our health clinics, not only of the actually ill, but of those who seek prevention.

Of special value to the child is the instruction given along lines of proper food. Our experience has shown from many cases studied at child welfare clinics, that the cause of many children being below grade in their studies is faulty nutrition. An under-nourished child is a sick child. A sick child cannot keep up in competition with his fellow. In many of our schools nutritional instruction is established, and the giving of milk in the middle of the morning session has raised what would otherwise be a backward child to normal health.

Education of the child on food subjects is also reflected in the home. The teachings that tea, coffee and other foods are not suited for the child, have brought about a wonderful change in the table food in the home. Many children were formerly started to school on no breakfast or an improper one and were handicapped throughout the day.

It would require a giant adding machine to compute the improvement in the health of our children which this education on proper food has brought about.

The establishment of public playgrounds and the supervised play periods in the rural schools has been of great value in bringing to better health, the weakling, or the backward child.

Fair play, equal chance, and one game for all will work wonders in creating a spirit of fair competition, better health and general good humor among the children.

Therefore, let us not consider the cost, for whatever it may have been, it was justified and we know in advance that however much we may spend next year, it will be a safe investment, sure to yield large, constant and profitable returns.

OUR NURSES IN THE FIELD.

Our rural clinics are rather too recent to serve as a base for general conclusion, however, some very definite results have been noted. Prominently among these is the increasing number of fresh air adherents which is one of the outstanding signs that the State Nurse has passed through the County.

These spring days, with the impassable roads, find the young mothers using the railroad service instead of automobiles, and daily we find young mothers boarding trains with their animated bundles wrapped in gay colored Teddy Blankets. Almost every way station finds some young mother and her baby, waiting for a pal of hers, and many are the happy greetings when they meet for the first time since their motherhood. The other day, I saw a young mother, who had twin boys 6 months old, being teased by five others all having babies of various ages, but she "backfired" by saying, "Having two babies is much better than having one."—The old city sight of girls comparing notes in the Public Squares is now common in the way stations of our County. No more do we find the windows nailed for a long winter, and fresh Clean Milk is the order.

Ferdinand Lopez has already won the hearts of those whose privilege it has been to serve him.

Two weeks old, he has blue eyes and rather exceeding the average weight and height of new born American babies. Destiny chose for his birth place a State Hospital for the Insane, into which place his mother had been transferred from the County Jail.

The mother is being held for the murder of an older son, aged two years, whose life was sacrificed when his mother discovered "quickening" in the life of Ferdinand with no hope of his being born in wedlock.

Our socially minded Judge, having been advised by the Hospital physicians that the life of Ferdinand was endangered, if allowed to remain with his mother, recommended the removal of the child and directed that the County Nurse be given charge of the details involved, to the end that the little fellow might be permanently removed from the environs into which he had been born.

After a long, tiresome day on the railroad trains, mostly on a narrow gage railroad, the nurse reached the hospital. Less than an hour later, on the return trip, the baby and nurse were safely tucked away in a lower berth, with several hot water bottles and some bottles of milk to comfort them.

When the Big City was reached, twelve hours later, the infant had registered as a "Fine Boy" with his fellow travelers.

The baby not having been adjusted to a fresh milk formula was taken to an Infant's Hospital, where arrangements to have him cared for had been made, and where he would await placement in a private home, several applications having since been received.

On the records of the institution we find the following—

"Ferdinand Lopez, born March 19, 1924, out of wedlock.
Mother in Hospital for Insane. Father, a man of intelligence. Both white Americans."

Margaret H. Davis,
Clarion County.

"Aw, come on and play Jimmy. Take the kids home and come on down on the lots."

Jimmy Marshall, aged nine, but not looking a day over six, shook his head slowly, leaning his weight against the handle bars of a baby coach containing his two step-sisters, Myrtle and Maud, aged two and one years respectively.

"Aw, I can't. Mom's washing and I can't leave the kids—their Dad would lick me." Jimmy looked longingly after the care free boys who scampered away to the lots. They didn't have babies to mind, nor a cross step-father, or a tired mother, and they were all stronger than he and could play better ball and everything. He was tired anyway and wished he could go home and lie down, but the babies would cry and his step-father would call him a lazy little beggar and send him out again.

He wished his own father had lived. He could remember how long his father had been sick and when he died, and then his mother had married again, but somehow Jimmy could not like his step-father, who was not kind to him nor his four brothers and sisters, who all seemed strong and well.

"Oh, I forgot I have to go to the clinic today," and Jimmy hurried off home to wash his face and go to the clinic to have the Doctor give him a thorough examination.

"Tell Mother I expect to call to see her tomorrow morning," the nurse said to him as he left the clinic.

Jimmy was waiting for her when she came and wasn't at all alarmed, when she explained to his mother that the Doctor at the dispensary thought it best to have his tonsils and adenoids removed and that he be sent to the State Sanatorium to learn how to grow up to be a strong man. Jimmy's father had died of T. B. and his mother was anxious to do everything to prevent Jimmy having it. It was only a few days until the State Nurse told Jimmy she had arranged with the hospital for his operation. He liked the clean bed in the hospital and did not mind being away from home over night.

Then the days were spent in waiting for the letter notifying him of the day he was to go to the Sanatorium.

There was no room for Jimmy to sleep alone in the over-crowded little house where the Marshalls lived. His step-father, the only wage earner, was working only a few days a week, and Jimmy's mother said it would be impossible for her to buy the necessary clothing or to provide car fare for the trip.

The nurse referred the case to an organization doing that type of work, and a few days later Jimmy went with the nurse on a most exciting trip to the stores. He had never owned so many new things at once in all his life. That dandy sweater, the scout shoes, the khaki blouses and the "sneaks"—he could hardly wait to get started so that he could wear them.

At last the great day came. Jimmy's mother bade him a tearful farewell, but knew "it was for his good."

The wonderful trip to the Sanatorium was over and Jimmy with the other boys and girls who had arrived on the same train, settled down in the beautiful mountains to happy days of study, play and rest. There were so many wonderful things to learn—why one should rest every day, breathe fresh air, drink milk and eat vegetables. Jimmy was going to tell his mother to put them to bed early and not let the other children eat so much candy and soda water. He just couldn't stay awake after eight o'clock now and he used to play on the street until ten, and he was gaining so much every week—getting the gold star almost every class day.

By the end of eight months Jimmy had grown several inches taller and had gained, oh, so much, and now he was to go home with the other boys and girls who had come when he did. Their parents had been notified to meet them at Broad Street Station, Philadelphia. Saying "Good bye" took a long time. He had made so many friends. Now that he was to go home, he could hardly wait to start. He wanted to see his mother—he had not realized before how much he had missed her. Yes, he wanted to see the babies too.

Philadelphia at last! What a crowd of people. With little shrieks of delight and much laughter, the other children were being met by happy mothers or fathers.

Where was his Mother? She would surely come to meet him. Maybe she had missed the train in from C. Then he saw her. "Mother," he made a mad dash through the crowds. He was almost as tall as she when he put his arms around her neck and kissed her on the cheek, for Jimmy had learned about kissing as well as other things while away. "But you're not my Jimmy, he was a little fellow. You're another boy. Why, I've been watching you ever since the train arrived," she said, holding him off from her and looking him over from head to foot.

"Yes, you are Oh, Jimmy." She was laughing and crying at the same time. Eight months at the wonderful State Sanatorium had made "another boy" of Jimmy so completely, that even his own mother did not know him.

Elizabeth M. Dennie
Delaware County.

Just a few cases from Lebanon.

The case of R. M. C., a case of premature birth. Weight 3½ pounds, mother died when baby was two days old.

The State Nurse hearing of the case, visited the home daily, supervising the baby's diet, administering baths, etc., for a period of a year. Child today, four years old, weight 43½ pounds and in excellent health.

E. E. born Dec. 14, 1919. Brought to clinic when 15 months old. Examination revealed cystitis. Medical attention was recommended and the nurse made frequent visits to the house. Today the child is entirely well.

Richard P. born Oct. 26, 1918. Brought to clinic when 2 years old. Examinations revealed rickets, with both ankles deformed. Nurse obtained free hospital treatment and Richard is now entirely well and walks without artificial aid and without a limp.

Margaret J. Quinn,
Lebanon County.

Mrs. B., an Italian woman, and her nine year old daughter came to the State Chest Clinic for an examination.

The child acting as interpreter informed us her mother was the patient, although she showed no outward signs. As the child herself was much emaciated, it was wise to examine her also.

The family consisted of the father, mother and eight children from two to eighteen years of age. The oldest, a girl, recently married, lived near. The father had returned to Italy and Mrs. B. was anxious to join him, but wanted better health before undertaking the trip with her large family.

Physical examination of the mother showed no lung involvement but a decided cardiac condition.

The little girl, 12 pounds underweight, had defective teeth, tonsils and adenoids.

Before Mrs. B. left the clinic, she was advised as to her own care and the care of her daughter, but it was plain to see she did not understand, so she was told someone would come to the house to talk to her.

On visiting the home, a neighbor volunteered to interpret; this was much more satisfactory than a juvenile interpreter.

When we learned that Anna, a sixteen year old daughter, was living with her sister, we asked her to return to her mother's home, which she did quite willingly, and then we arranged with Anna, Rose and Mary, sixteen, fourteen and twelve years respectively, to do the work for the mother. Anna worked in the mill but was willing to do her part in the evenings and Saturdays. This was not severe for the children because with good team work, neither one had a great deal to do.

Mrs. B. was instructed as to rest, exercise, fresh air and diet.

The rest order gave her concern. There was so much work in the home that it was impossible for her to be idle. She was convinced, however, that it was unnecessary.

In our argument we compared her home with an industry. We told her to imagine that her home was a splendid large factory, and that she was a forelady and the children her workers. We told her that a good boss does not do the actual work, but constantly plans to keep everybody else busy. This was her job—to plan the work for her little assistants, or workers, and to keep them busy.

The plan worked out beautifully.

Mrs. B. was asked to send the other members of her family in to the clinic, which she did.

It was found that four were in need of dental care and two had diseased tonsils and adenoids.

The three children who had diseased tonsils were underweight.

The rest of the family were normal or slightly overweight.

After we had won their confidence, we began to speak about the correction of physical defects.

Mrs. B. readily consented to suggestions, so we arranged with the married daughter to take the children to the dental clinic.

Their dental work taken care of, tonsils and adenoids were next in order.

The three children were taken to the hospital at the same time and operated upon.

Their weight had to be observed for some time and their diet and home care supervised.

They were at a standstill for a time, but soon one of them made a slight gain, and then the second one made a gain, and finally the third one gained, and they continued gaining.

A few months went by and Mrs. B. and her interesting family were getting along quite well, but one day while visiting them, we learned the mother had been taken to the hospital the day before. This was like a thunderbolt from a clear sky because she had been so well.

We learned later that because Mrs. B. was so well, she wanted to test herself, as she put it, and so she decided to do the family washing. The result was, that when the doctor answered the call, he ordered her immediate removal to the hospital.

She spent some time in the hospital, during which her little assistants were model housekeepers.

When she was discharged and returned to her home, she decided to return to her native country, before she had time to do another foolish act.

Four weeks later she and her family were enroute to Italy.

The married daughter and Anna decided to remain here in America.

Our work did not end with the departure of the family.

When our home visits took us near the vicinity of the married daughter, Mrs. C., we made a special effort to visit her and never failed to inquire about our friends across the sea.

Mrs. C. was then eighteen years of age and we felt that she needed a friend, beside her aunt who lived next door, and we learned later how much she appreciated our friendship.

After we learned to know her quite well, we spoke to her about motherhood.

When we found that she was fond of children and wanted children of her own some day, we spoke to her about prenatal care, and asked if she would read literature if it were sent to her, for she was educated in this country. She answered in the affirmative but was rather indifferent.

She was not at that time an expectant mother.

We visited her from time to time and had a new message for her each time.

Finally she had a message for us one day—

"You know, Miss Nurse, you said my husband should take me to the doctor as soon as I found I was pregnant. Last week we went to the doctor and he says I am pregnant. I did not want to go so soon, but Mike read those books you sent and he said we would go right

away, and now I will go regularly because Mike says I must. My aunt told Mike that in the old country, they do not do that way, but Mike told her that we do not live in the old country just now."

Mrs. C. knew all about prenatal care by this time, so we asked if she would like to know about infant care and child care. We talked to her about these subjects and sent her literature. Later we sent her the pattern for a layette, which she appreciated very much.

Mrs. C. was pregnant six months by this time and was getting along very well. She knew all about prenatal care, infant and child care and had a layette which she herself made.

The next thing to talk about was the lying-in period, but we found that she had already arranged to have a practical nurse take care of her, much to the disgust of her aunt, who considered this an unnecessary outlay of money.

The next step was to tell Mrs. C. about the Well Baby Station.

The baby came, a fine 9 pound boy.

He was just six weeks old when he was registered in the Well Baby Station. On account of the distance, he does not get there often, but he does visit the doctor's office for health examinations.

His mother appreciates that it is easier to keep a baby well than to make a baby well.

Some time ago when we called to see the baby, Mrs. C. asked if we could send Mrs. D. some of the books we sent to her. Mrs. D's baby was not doing well.

When asked why she did not give her friend the books she had on hand, she replied she had already given them to another young mother.

This mother, who knew all about baby's care long before she even knew that he was on his way to this big world, makes us think of the marriage license in connection with our prenatal work.

We seldom come in contact with the expectant mother in the early period of her pregnancy. When we do so, it is seldom the first pregnancy, when proper instruction is so important.

We reached Mrs. C. at a time before any one had an opportunity to poison her mind with old ideas. Even her auntie, who lived next door, was too late with her abundance of advice.

Would it be possible to do the same for every woman, if we followed up the marriage licenses?

L. J. Tritschler,

Clinic 106, Sacred Heart Hospital,
Allentown, Pa.

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ISSUED MONTHLY

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No. 15

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The Health Gnome Says

A drop of iodine will slaughter
All the germs in a quart of water.



The Listening Post

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"Acceptance for mailing at special rate of postage provided for in section 1103,
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Once More 70 $\frac{1}{2}$.

A celebrated lawyer when asked wherein lay his success in Jury trials answered, "By driving my arguments home—first I tell them, what I am going to tell them; then I tell them; then I tell them, what I told them."

So here goes again. This article is directed to you, who are over thirty-five. You have three assets: your life, your health and your property which may consist of real estate, securities, business income or just a job. If you lose your property, you may regain it; under favorable circumstances, lost health may be restored, but when life is lost, there is no come back. Both property and health are essential to the enjoyment of life.

Just how long your life will last is, to a great extent, in your own hands. This is not a moralizing lecture to tell you to "be good and you shall be happy", but a face to face look into some plain truths. Thirty-five, forty or whenever, years ago you made your start in life, the element of good luck was largely responsible for your safety in those days; good luck in being cast into a favorable environment; good luck in having sensible parents, or under other circumstances good luck in having a constitution sufficiently vigorous to overcome the handicaps which threatened. You either escaped or weathered the perils of infancy and perhaps good luck continued to accompany you through the various danger fields of childhood and youth.

Now that you have arrived at the years of maturity, your good luck may hold, let's hope it does, but don't lean too hard on it—it may skid. Now is the time to put to practical use the attribute which you have been unconsciously developing during these years—*good sense*. The length of your life from now on will depend upon how thoroughly you follow the dictates of good sense. Your chief dangers are from degenerative diseases of the vital organs and the nervous system. They are all preventable and, when existing, all subject to amelioration under proper medical supervision. The first way to practice good sense is to go to your doctor for a Health Examination; if you are sound, rejoice—you are reasonably safe for a year. If you are beginning to break, rejoice again, for small breaks are easiest mended.

Even if your condition be serious, you may be glad to find it out, for if you follow the rules you will surely live longer, perhaps many years, than if your case had gone on undiscovered. An annual Health Examination on your birthday (so as to be regular) will lengthen your life. Forget about the three score and ten limit and aim for 70+. When you see the sign 70+ on the envelope of this Journal, let it remind you that it is time for your Health Examination. Write 70+ on your own envelopes to remind others.

W. C. M.

EXCERPT OF PENNSYLVANIA'S QUARANTINE REGULATIONS.

Reportable Diseases

Anterior poliomyelitis	Measles
Anthrax	Mumps
Bubonic plague	Ophthalmia neonatorum
Epidemic cerebrospinal meningitis (cerebrospinal fever, spotted fever)	Pellagra
Chicken pox	Pneumonia (true)
Asiatic cholera	Puerperal fever
Diphtheria (diphtheritic croup, membranous croup, putrid sore throat)	Relapsing fever
Epidemic dysentery (bacillary or amebic dysentery)	Scarlet fever (scarlatina, scarlet rash)
Encephalitis lethargica	Smallpox (variola, varioloid)
Erysipelas	Tetanus
German measles	Trachoma
Glanders (farcy)	Tuberculosis in any form
Rabies (hydrophobia)	Typhoid fever
Leprosy	Paratyphoid fever
Malaria	Typhus fever
	Whooping cough
	Yellow fever

Householders or hotel proprietors must report to the local health officer, cases of sore throat, rash, skin eruption or spasmodic coughing, in cases where no physician is employed.

All institutional superintendents must notify the local health officer of the presence of quarantinable disease and must carry out all quarantine regulations.

Quarantine is indicated by a warning placard. No one except physicians and nurses may enter or leave without permission of the health authorities.

Isolation confines the patient to a room to which no one except the physician and attendant may have access.

Quarantinable Diseases

Anterior poliomyelitis	Measles
Bubonic plague	Mumps
Epidemic cerebrospinal meningitis (cerebrospinal fever, spotted fever)	Scarlet fever (scarlatina, scarlet rash)
Epidemic dysentery	Smallpox (variola, varioloid)
Chicken pox	Typhoid fever
Asiatic cholera	Paratyphoid fever
Diphtheria (diphtheritic croup, membranous croup, putrid sore throat)	Typhus fever
German measles	Whooping cough
Leprosy	Yellow fever

Quarantine Periods

a	Encephalitis lethargica	}	No quarantine but patient must be isolated.
	Anthrax		
	Erysipelas		May quarantine under certain circumstances.
	Glanders		
b	Asiatic cholera	}	Until recovery or death.
	Leprosy		
	Epidemic dysentery		
	Typhus fever		
	Typhoid fever		
	Yellow fever		
	Epidemic cerebrospinal meningitis		

Periodic quarantine dating from appearance of first symptoms.

c	Scarlet fever	}	30 days minimum or until death or complete recovery
d	Smallpox		
e	Anterior poliomyelitis	}	21 days
	Diphtheria		
	Mumps		
	Chicken pox	}	16 days
	Measles		
	German measles		
f	Whooping cough	}	28 days
	Tuberculosis	}	Subject to quarantine by Secretary of Health, his authorized agents or local health authorities.
	Gonorrhea		
	Chancroid		
	Syphilis		

Persons exposed to diphtheria, scarlet fever or smallpox may be quarantined and the premises placarded during the incubation period of the disease.

Incubation Periods

Acute poliomyelitis (infantile paralysis)	14 days
Cerebrospinal meningitis	14 days
Chicken pox	16 days
German measles	14 days
Measles	14 days
Mumps	21 days
Scarlet fever	10 days
Smallpox	18 days
Diphtheria	5 days
Whooping cough	14 days

Carriers of the following may be placed under quarantine until they cease to be carriers:

Diphtheria bacilli
 Cholera "
 Dysentery "
 Typhoid "
 Paratyphoid "

Children immune to quarantinable disease may be given a disinfecting bath, disinfected clothing, removed to other premises and be freed from quarantine.

Non-immune children may be removed in like manner, but must remain quarantined until the expiration of the incubation period of the disease.

In cases of diphtheria or scarlet fever, health officers may grant permission to wage earners not employed in upholstery, wearing apparel, milk, food stuff or tobacco to go to and from their work, provided they do not come in contact with the patient.

Termination of Quarantine

Asiatic cholera	}	Only at the direction of the Secretary of Health or his agents, then only after disinfection of premises.
Leprosy		
Typhus fever		
Yellow fever		
Diphtheria	}	Only on written request of physician stating patient has completely recovered, and there are no other cases on premises.
Cerebrospinal Meningitis		
g Typhoid fever		
Paratyphoid fever		
Dysentery		
Smallpox		
Scarlet fever		
Measles	}	By Health Officer upon request of householder.
German measles		
Mumps		
Whooping cough		
Chicken pox		
Smallpox	}	After disinfection by formaldehyde gas.
Leprosy		
Asiatic cholera		

Disinfection

Soap and water cleaning of sick room, the use of germicidal solutions to all exposed surfaces, sunlight and air.

No person (including hotels) shall let a house or room, formerly occupied by tuberculous person, without disinfection to the satisfaction of the local health authorities.

The sale of milk or milk products is prohibited on premises where exists typhoid, paratyphoid, dysentery, scarlet fever, diphtheria, streptococcic sore throat, smallpox or epidemic cerebrospinal meningitis, except by permission of health authorities and under the Regulations laid down by the State Department of Health.

In preparation for burial in case of Asiatic cholera, bubonic plague, smallpox, yellow fever, typhus fever, relapsing fever or leprosy, the undertaker must disinfect and place body within the casket six hours after call, unless said call be made between 11 P. M. and 5 A. M. when twelve hours are allowed. Casket must be sealed and not opened thereafter.

The above and bodies dead from scarlet fever, diphtheria, epidemic cerebrospinal meningitis, measles, German measles, whooping cough and mumps shall not remain unburied longer than 36 hours after death, except by special permission from the health authorities.

All services connected with bodies dead from above diseases must be private and only adults allowed to be present. Bodies must not be taken to church or public place.

Only the necessary number of vehicles are permitted and they must be disinfected after use. Bodies may be conveyed to cemetery only in hearse or other vehicle used for such purpose.

Transportation

No person having quarantinable disease may enter a public vehicle. A person with quarantinable disease may be transported from one place to another in public or private vehicle or carrier, when it is occupied only by patient and attendants and upon written permission of health authorities, if within the limits of the municipality and from the Secretary of Health, if beyond.

Responsibility to be equal between owner of vehicle and person having patient in charge. Person having patient in charge is responsible for disinfection of discharges and of vehicle.

This must not be construed as prohibiting transportation of a patient with communicable disease for special treatment in emergency, provided effort has been made to obtain permission of health authorities.

Teachers should exclude from school children showing unusual skin eruption, swelling about the neck, soreness of the throat, or having symptoms of whooping cough, or diseases of the eyes, and report such exclusion to the local Health Officer.

No such child so excluded from school shall be readmitted except upon presentation of a certificate setting forth that the conditions prescribed by regulation for admission to school have been complied with, and signed by a person designated for that purpose by the health authorities.

Children having acute contagious conjunctivitis (pink eye), impetigo contagiosa, pediculosis capitis, pediculosis corporis, scabies, tinea circinata, tonsilitis, trachoma or favus, are not permitted to attend school, public, private or Sunday.

No child excluded from school shall be readmitted until medically attested to in writing as being incapable of transmitting the disease or condition, because of medical treatment or as being recovered.

a—Isolation required.

b—Quarantine period for typhoid and paratyphoid is until recovery, death or removal of patient.

Physician's request for removal must not be made until patient shall have had normal temperature a week.

c—Quarantine must continue 10 days after death or removal, should there be susceptible persons in the household.

d—Persons immune to smallpox by prior attack or vaccination may be permitted to leave premises of smallpox, after exercising due precaution.

e—A child shown to be immune by negative Schick test may be removed to other premises and at once be relieved from quarantine restraint.

If not immune, he may be given an immunizing dose of antitoxin, an antiseptic bath, change of clothing, removed to other premises and after 5 days return to school.

f—After the third week the patient may be taken upon the streets by a responsible person, who shall prevent contact with other persons.

g—All convalescents from typhoid fever are considered carriers until after 2 negative examinations of the stools.

Typhoid carriers are not permitted to change residence without notification to health authorities and privies used by them must be screened or otherwise made fly proof.

TOXIN ANTITOXIN IN FULTON COUNTY

Just because Fulton County is small in area, thinly settled and with no railway, it must not be passed up as unimportant. Little Fulton is not only well able to take care of herself, but at times to set an example for her more widely advertised sisters. Incidentally Fulton County has no Almshouse—doesn't need one—and her tiny jail is falling into decay from disuse.

One of the beauty spots of Fulton County is Wells Valley, rather difficult of access, for the road, after you leave the Lincoln highway, is, to say the least, no race track. But the valley itself is well worth while and the people who live in the valley know just as much about automobiles, radio, baseball, Daniel Webster, Christopher Columbus and the other things you learn in school and out, as the people who live beside trolley tracks and read the morning paper before breakfast.

Several months ago Dr. J. Bruce McCreary, accompanied by Mr. H. F. Griffith, County Supt. of Schools, and Dr. J. H. Mosser, County Medical Director, held a meeting in Wells Valley and told the fathers and mothers of that community that if they would have their children immunized by the administration of toxin antitoxin, they could rest in peace thereafter, so far as danger from Diphtheria was concerned. After the meeting was over, they all went home convinced that the idea was alright and that it was a good thing.

And just there the matter would have rested, after the manner of many other good things which have been started and not pushed. But Fulton County's Medical Director, Dr. Mosser, is not the kind of man to allow the ball to stop when it starts rolling, so he let it be known in Wells Valley that on a certain day he would be at a certain place to administer toxin antitoxin to all comers, and they came from one end of the valley to the other. The next week he gave them their second dose and the following week their third.

One hundred and thirty-four children are safe against Diphtheria, not so many as there are in Philadelphia or Pittsburgh of course, but all (of susceptible age) in Wells Valley.

All this took time and patience and trouble, but it demonstrated what time and patience and add trouble, if you will, can do. The Pennsylvania Department points with pride to this accomplishment and to Dr. Mosser and his labors in Wells Valley as an example worthy of emulation by County Medical Directors of larger districts.

THE SANITARY WATER BOARD

By

W. L. Stevenson, Chief,

Division of Sanitary Engineering.

The Sanitary Water Board, as created by the "Administrative Code," approved June 7, 1923, consists of Dr. Charles H. Miner, the Secretary of Health, as Chairman, Major Robert Y. Stuart, the Secretary of Forests and Waters, George W. Woodruff, Esq., the Attorney General, Mr. Nathan R. Buller, the Commissioner of Fisheries and Wm. D. B. Ainey, Esq., Chairman of the Public Service Commission.

The powers and duties of the Board include:

(a) The administration of the laws of the Commonwealth prohibiting the pollution of the waters of the State.

(b) The study, investigation and reporting upon ways and means of eliminating and preventing stream pollutions which are detrimental to the public health, the health of animals, fish or aquatic life or to the recreational use thereof.

The Sanitary Water Board has established a number of fundamental policies through the adoption of the following resolutions:

That streams which are used as sources of public water supply after filtration should, in addition to being reasonably clean, provide a raw water sufficiently low in organic and pathogenic bacterial content that it can be safely and reasonably economically purified for domestic purposes.

That streams which are used as sources of public water supply with only chlorination should be kept free from all artificial sewage pollution unless adequate assured long-time storage is used for the water supply and in such cases the sewage effluent should be adequately disinfected as a further safeguard.

Requirements made to restore sewage polluted streams, not used as sources of public water supply, or to maintain clean streams in a clean condition should be begun at the head waters and progress down stream.

Requirements made to protect sources of public water supplies should be, in general and subject to local conditions, begun at the first source of sewage contamination above the waterwork's intake and progress up stream.

The resolution of the Sanitary Water Board adopted August 8, 1923, for Classification of Streams, is as follows:

"WHEREAS, The degree of pollution of the waters of the State varies widely from the pristine purity of a small stream flowing through a virgin forest to the grossly polluted stream draining a valley given over to intense municipal and industrial development, and

WHEREAS, Such differences in condition and the present and probable future use of the streams must be recognized in determining the required degree of treatment of sewage and industrial wastes, and

WHEREAS, The natural powers of streams to inoffensively assimilate and dispose of polluting matters by dilution must be utilized so far as compatible with the general interests of the public in order to establish a practicable and economical program for stream control, therefore

RESOLVED, That the waters of the State be classified as follows:

RELATIVELY CLEAN AND PURE STREAMS

CLASS "A"

Streams in their natural state probably subject to chance contamination by human beings but unpolluted or uncontaminated from any artificial source, hence generally fit for domestic water supply after chlorination, will support fish life and may be safely used for recreational purposes.

STREAMS IN WHICH POLLUTION SHALL BE CONTROLLED

CLASS "B"

Streams more or less polluted, where the extent of regulation, control, or elimination of pollution will be determined by a consideration of (a) The present and probable future use and condition of the stream; (b) The practicability of remedial measures for abatement of pollution, and (c) The general interests of the public through the protection of the public health, the health of animals, fish and aquatic life, and the use of the stream for recreational purposes.

CLASS "C"

Streams now so polluted that they cannot be used as sources of public water supplies, will not support fish life and are not used for recreational purposes and also from the standpoint of the public interests and practicability it is not now necessary, economical or advisable to attempt to restore them to a clean condition; and further,

RESOLVED, That all artificial pollution of Class "A" streams shall be prohibited and any sewage or industrial wastes on the watershed shall be treated to such a degree that the effluent shall be practically free from suspended matter, non-putrescent and disinfected and that recreational use shall not be sanctioned within prejudicial influence of waterworks intakes, and further

RESOLVED, That the degree of treatment of sewage and industrial wastes discharged into Class "B" streams shall

be determined for each particular stream or portion thereof after consideration of the general interests of the public and the economics of the particular case, and further

RESOLVED, That sewage and industrial wastes may be discharged into Class "C" streams; provided, however, that such discharge shall not create any public nuisance or menace to health."

This resolution establishes the policy that streams now relatively clean and pure shall be kept in that condition. No future pollution thereof will be permitted. To date the Sanitary Water Board has designated over 2000 miles of streams as Class "A."

It also recognizes, that due to existing intense industrial development on certain watersheds, the streams thereof have become so polluted that they are now totally unfit for use as sources of public water supply nor will they support fish life and hence are practically set aside for the disposal of industrial wastes. The cost of construction and maintenance of works for the abatement of the pollution of such streams will far exceed the value of the benefits to be derived by the public through their restoration to a clean condition.

Therefore, efforts will not be made, at this time, to accomplish any more than the prevention of menace to the public health and creation of nuisance in streams which may be designated as Class "C."

The majority of the larger streams draining developed areas will naturally be found in the middle group and will be designated as Class "B."

The Resolution recognizes the natural powers of streams to in-offensively assimilate a certain amount of polluting matter and that the use of the scientific method of disposal by dilution is essential to the success of any program for stream control because of the economics of the problem.

The usual requirement to be met in determining the pollution load which a stream can receive when considering disposal by dilution is the maintenance of the stream in a cleanly condition as measured by sight or smell.

But when the Sanitary Water Board designates any stream as Class "B," it will also determine the degree of treatment of polluting matter and this will be based upon the use and condition of the stream both at present and in the probable future in order to compare the cost of treatment on the one hand with the value of the benefits to the public obtained through protection to sources of public water supplies, fish life and recreational use of the stream.

The cooperation of municipalities and private persons and corporations with the State is essential to the success of the comprehensive program of the Board for stream control and hence a resolution has been adopted, authorizing the Secretary of Health to notify all municipalities on the watershed of any stream that has been classified as to the required degree of treatment of sewage.

Thus each municipality along the classified stream will know that as the means for abatement of pollution are progressively installed from the headwaters on downstream, they will benefit by the expenditures of their upstream neighbors and in justice they must do likewise for other municipalities situated on downstream.

Existing law requires the issuance of a State permit before public sewers can be constructed and provides penalties for unlawful discharge of sewage; hence, the Sanitary Water Board in administering the law will both confer privileges and impose obligations upon municipalities.

The Board has established the policy that good faith must be shown by municipalities in complying with requirements of sewage permits before they are granted further privileges or are relieved from penalties.

For extending the limits of cleanliness of streams whose headwaters are not now polluted, such streams are being examined by State employes whose regular duties include the traversing of them in order to ascertain the first source of pollution and thereafter, if the Board shall deem it expedient, means will be adopted to secure abatement.

In this way the cleanliness of headwater streams will be gradually extended and increase the available sources of public water supplies, benefit riparian owners along the banks and provide more clean streams in the State for the pleasure of the public who are learning the healthfulness and value of recreation in the open through camping, hunting and fishing.

Various State officials and Departments are constantly in receipt of complaints from the public concerning pollution of streams or the destruction of fish. Occasionally these complaints are concise and well-founded, but generally they are vague and indefinite.

The Board has therefore established the policy that only well-founded and concise complaints will be considered. Forms are sent to complainants in duplicate for furnishing the data and the statements made must be sworn to. Upon receipt of the properly filled in complaint form charging violation of law against any person, firm or corporation, the copy thereof is sent to the respondent who is afforded opportunity to make abatement or to submit defense of the charge in the complaint.

After consideration of the formal complaint and the respondents reply thereto, an investigation is made and if violation of law found and abatement is not made, prosecution is instituted.

The Board has by resolution placed the matter of handling complaints relative to destruction of fish with the Commissioner of Fisheries pursuant to Section 501 of "The Administrative Code."

The funds available are insufficient at this time to inaugurate any extensive investigations such as were conducted by the Royal Commission on Sewage Disposal of Great Britain who most thoroughly studied for many years the whole question of stream pollution.

However, many data are now available and in the regular field investigations made preliminary to issuance of waterworks and sewerage permits and for other purposes, the required information will gradually be accumulated for the classification of streams and determining degree of treatment of polluting matter.

The magnitude of the task confronting the Sanitary Water Board may be seen when it is realized that 13 percent of the 4419 named streams of Pennsylvania have drainage areas of over 25 square miles and an aggregate of 13,000 miles and by proportion, it is probable that the total length of all named streams is about 100,000 miles. Also it is estimated that the total average flow in Pennsylvania streams is at a rate of about 2,600,000,000 gallons an hour.

The sources of pollution are innumerable, diverse in character and of both public and private origin—e. g.—there are 974 municipalities in the State of which only one-half has public sewer systems from which sewage or sewage effluent is discharged to the streams, also many towns have storm drains to which sewage connections have been made and countless private sewers discharge sewage. In addition to sewage the Board must also consider industrial wastes.

It has been estimated that stream pollutions may be caused from about 2500 industrial places representing a capital investment of over \$1,000,000,000 and yielding products valued at over \$1,500,000,000 a year.

Hence the solution of the problem confronting the Sanitary Water Board must be approached sanely and deliberately with recognition of the financial aspects, so as to successfully carry out in an orderly and logical sequence, a comprehensive, practicable program for stream control in the Commonwealth of Pennsylvania.

MATERNITY HYGIENE

By

Edward P. Davis, M. D.

The pregnant woman feeds herself and her child, and should do it carefully. Her ideal food is milk, fruit, vegetables, bread, cereals, and at least two quarts of good drinking water daily. Some foods will injure her and her child, such as meat in abundance, indigestible foods, candy and sweets, strong tea and coffee in excess and worst of all, alcohol. A woman may bring on convulsions and lose her life and that of her child by eating the wrong food. If she be nauseated or if the pressure of the child produce digestive disturbance, she should not eat much at a time. At such times, little and often is the rule. She should vary her diet from time to time, eating the things that she likes and finds easily digestible. Buttermilk as a drink is especially good.

At least once every day the bowels should move thoroughly. This can be managed by varying the quantity of fruit and vegetables eaten and the water taken. If medicine be needed, the doctor should give it.

In the first four months of pregnancy many women feel badly. They have little strength and find it hard to do anything. During this time the child's skeleton is developing and the child's body is practically formed at the end of four months; to avoid lack of development and deformity, the mother should have rest during these months and should avoid hard work and strain of all kinds. She will need from eight to ten hours sleep in twenty-four.

After the fourth month she should exercise. Light housework and walking in the open are best. Lifting, straining, reaching high above the head, are to be avoided. In automobiles the pregnant woman should ride on the front seat. It is best for her not to drive a car herself. She should not ride over rough roads nor fast.

A daily warm soap and water bath is an essential for good health. In hot weather she must rest as long as possible in the middle of the day. She should not eat when hot and tired. She should pay no attention to tales other women may tell her about having babies. If anything occur which she does not understand, she should ask her doctor.

It is unnatural for a pregnant woman to be sick, to feel badly, to be weak and depressed. If this happen, there is some cause which the doctor must find and remove.

If the pregnant woman has persistent nausea, with or without vomiting, hard headaches, pain in her abdomen, bleeding like menstruation, she should call her doctor at once.

If she does not feel the child moving after it has begun to move, or if her abdomen grows large quickly, she should see her doctor. She should see him regularly at least once in two weeks. The urine should be examined at least once in two weeks. She must find out from her doctor what he wants and do it faithfully.

Whether a pregnant woman takes care of herself or not may mean the difference between life and death for her child and herself.

THE BEGINNING OF PUBLIC HEALTH WORK IN PENNSYLVANIA 39 YEARS AGO.

The "State Board of Health," called into existence by the will of the people of this great Commonwealth, expressed through its representatives in General Assembly met, and approved by its chief executive, enters upon the discharge of its grave duties and the exercise of its important powers deeply impressed with the sense of the responsibilities which devolve upon it, and reverently invoking the blessing of the God of nations upon its labors. It desires at the outset so to

define its position as to lead to the immediate establishment of those friendly reciprocal relations between itself and the public, which can be securely founded only upon a vigilant care for the well-being of the people by the State, on the one side, and "a decent respect for the government by the people," on the other.

It is not too much to say that the creation of this board marks a new era in the history of the State, since it indicates the recognition by our legislators of the truth, reflected from the minds of the people, once so well formulated by England's brilliant prime minister, Lord Beaconsfield, that "the health of the people is the first duty of the statesman." The "DECLARATION OF RIGHTS" which constitutes Article 1 of the Constitution of this Commonwealth, and is, therefore, a part of its organic law, proclaims that "all men have certain inherent and indefeasible rights; among which are those of enjoying and defending life and of pursuing their own happiness." It is the conviction of this Board that these necessarily include the inherent right to the enjoyment of pure air, pure water, and pure soil, since without them life can neither be enjoyed nor successfully defended, and the pursuit of happiness becomes a cruel mockery. It further conceives one of its paramount duties to be to see that no man or combination of men, however rich or powerful, shall be allowed to trespass on these rights of the humblest citizen, whether from negligence, from greed or gain, or simply from ignorance. It is no mere empty figure of speech by which we call disease a public enemy. It requires to be met with organized resistance, and this resistance must be directed by a responsible head. When pestilence invades our borders, that head must be clothed with powers analogous to those of a general when the foe is at the gates. Sanitary law, in place of martial law, is then proclaimed and what are, in times of general health, recognized as sacred rights of person and property are sternly set aside. When such emergencies arise, as they inevitably must at some time, and as they possibly may at no distant day, the Board confidently looks to the sound sense and self-control of the people to lead them to submit cheerfully to whatever temporary inconveniences it may be deemed necessary to impose. The abridgment of the license of the individual—nay, at times, even of his rights—for the sake of protecting the rights of the community, is the very foundation-stone of civilized life. Civil organization cannot exist without it. Hence, restrictions are placed upon certain kinds of business which threaten injury to human beings. We prohibit the merchant from exercising his right of unrestricted traffic and sale and storage in the matter of explosives. He is not allowed to keep any considerable quantity of gunpowder, nitro-glycerine, or dynamite within certain limits, or within a certain distance of an inhabited house. Every one acquiesces in the justice of this restriction of his rights. But if a powder magazine had exploded in the heart of Philadelphia on the first of January, 1872, this calamity, frightful as it would have been, would not have caused a tithe as many deaths, would not have produced a hundredth part as much suffering, would not have afflicted an approach to as great a pecuniary loss, as did the epidemic of small-pox which was then raging. Thousands of lives, tens of thousands of maimed, disfigured, or invalided persons, millions of money—such was the cost of that explosion of disease. Is it too much

to insist that all our citizens shall submit to that slight infringement of their personal rights, which an immense majority voluntarily undergoes, in order that another such calamity shall henceforth, forever, be an impossibility within the borders of this Commonwealth?

Heretofore, it has been only a straggling, desultory warfare which has been waged against preventable disease within our borders. Isolated health boards and solitary sanitarians, here and there, have carried on a gallant fight, but against great odds, because lacking the element of intelligently combined action, which is essential to success. A prominent English medical review, speaking of our fragmentary and disjointed system of hygienic administration, if system it can possibly be called, says: "There is much good work done under a species of semi-authority and sufferance, and by volunteer exertion; but the plaint is the lack of a central authority and administrative power to make sanitary supervision an effective reality. The water-supply of a considerable portion of a great city is abominably polluted, but no sufficient authority is found to remedy it; there are numerous and deplorable nuisances, but no efficient inspectors; there are many factories and work-shops, but no laws to secure their hygienic condition or the physical well-being of those employed in them; there is evidence unmistakable of the sale of unwholesome and adulterated food, but it is nobody's business to meddle with it and protect the public; there are on all sides complaints of building operations in defiance of sanitary laws, and no one with authority to attend to them and take action against them; and lastly, intramural interments stand condemned in all civilized communities, but the public authorities of the American cities have no power to stop them." It will be the business of this Board to see to it that this stigma upon our civilization is removed; to collect and co-ordinate these scattered forces, marshaling them into a regular army of well-drilled sanitary troops, armed and equipped with all the appliances that modern science can suggest for stamping out pestilence and conquering contagion; to strengthen feeble health organizations, and to establish new ones where none exist, until there shall not be a hamlet in the entire domain of the State without its regularly constituted health-officers in direct communication with the central head.

Where the hygienic interests of different sections appear temporarily to conflict, the Board will use its best efforts to harmonize them. It often happens that the sanitary undertakings of one city prove the opposite of health-giving in their results in regard to another. The towns and cities which line the Schuylkill, for example, meritoriously wash themselves in that limpid stream, and so far do well, but unhappy Philadelphia, with the typhoid virus creeping through her veins, shudders as she unwillingly drinks their defiled washings. That they do this at their peril, the story of afflicted Plymouth only too clearly demonstrates, for let it not be forgotten that Philadelphia sowed the seed from which death has just reaped so fearful a harvest in that far-off mountain village. Hence, the necessity for the consideration on the part of the central sanitary authorities of the difficult problem afforded by "the pollution of rivers," in a broad, generous spirit, with a view to determining methods whereby one community may improve its own health conditions without impairing those of a neighbor.

In an immense territory like our own, larger than that of most of the nations of Europe, with its great diversity of surface, its lofty mountain ranges, and its immense forests, wonderful opportunities exist for sanitary engineering on an immense scale, determining in what direction water-sheds shall be encouraged and in what diverted; to what extent private corporations are to be allowed to jeopardize the health of large sections of the country by obstructing natural water-courses, for the purposes of manufacture or navigation; deciding how far certain forests act as natural barricades against devastating winds, and should, therefore be left untouched by the axe in order to maintain a permanent average rainfall, and thus avert droughts, cyclones, and floods, and how far others interfere with the circulation of healthful breezes, and may, therefore, be with benefit removed. With a rapidly growing population, and the frequent development of new centers of wealth and industry, much effective sanitation for the future can be accomplished in supervising the laying out of new towns. No village must be allowed, from this time forth, to take the simplest corporate form without laying before this Board a carefully prepared plan of its sanitary provisions. Inquiry will be made into the character of the soil, the quantity and quality of the possible water-supply, the width and inclination of its streets, whether its projected system of sewerage is wise and scientific, whether its surface drainage takes advantage of the natural water-courses, its regulations in regard to habitations, the space of ground allowed to each, and the space required in each in relation to the number of occupants. All these are points which enlightened sanitary science demands should be arranged, with a wise prescience in advance, and not left to settle themselves hap-hazard as emergencies may arise, after fearful sacrifices of health and life, and at an immense outlay of money, as our older cities are finding out to their cost.

The Board must also consider the relations of the country to the city as a purveyor. The supply of fresh vegetables and fruits, and pure milk and other dairy products to large communities is of the utmost importance, and every effort will be made to require and secure it. The transportation of live stock for food needs to be very carefully watched and regulated, both that none but healthy, and, therefore, wholesome, meat may be exposed for sale, and that infectious and epidemic diseases may not be introduced among our native herds and flocks from other localities; and although this subject has not been neglected by a co-ordinate branch of governmental supervision, the Board feels assured that any assistance which it may render in so important a matter will not be considered as impertinent.

But to attempt to briefly indicate even all the directions in which this organization hopes to add to the welfare and prosperity of the State would be to write a volume instead of carrying out its intention simply to speak a word. The intimate connection between a high standard of public health and material prosperity cannot be gainsaid. A human life has an actual cash value to the community as certainly as that of a horse or a cow. Fifteen million dollars would not cover the loss to this State from preventable disease in a single year. Hence, the money spent in sanitary precautions and

improvements is repaid with compound interest in the longevity and productive capacity of the population. Its disbursement is economy of the wisest kind, worthy of the most sagacious statesman.

But while it is true that the subjects confided to the consideration of this Board involve the profoundest problems of political economy and the most intimate researches of scientific investigation, it is not less true that every home and every hearth in the Commonwealth is deeply interested in the practical results to which it shall attain. Every vacant chair by the fireside, every empty place at the table, whose beloved occupant was snatched away by the ruthless hand of contagious or preventable disease, is a mute appeal for more searching inquiry into the causes and means of prevention of such diseases by the health authorities, and more general interest in their labors, and readier acquiescence in their decisions by the community at large and its individual members. The Board, therefore, earnestly invokes the conscientious co-operation of every householder to the extent of keeping his own home, and other buildings of which he may have supervision, in a healthful condition.

Especially does it desire that the women of the State should take an active and intelligent interest in the practical solution of the problems of home hygiene and sanitation. The establishment of the first State Board of Health in the United States was effected by the efforts of women. Reference is made to that Board, whose work has been so effective and thorough that it has been looked to as a model by other similar organizations—that of Massachusetts,—now in the sixteenth year of its existence. The ancients were right in making the divinity of health a goddess rather than a god, for woman, as wife, mother, nurse, has for her special function that daily ministry to the bodily welfare and daily necessities of offspring and of husband, that constant presence in and care of the home which are such essential promoters of health in the individual, in the family, and in the community. The Board is especially urgent, then, that the mothers of the land should attentively study the leaflets and tracts which it will from time to time issue, giving plain, practical advice as to the best methods of preventing the spread of infectious diseases, and of making their homes the abodes of health and therefore of happiness.

The Board proposes to indulge in no display of sanitary pyrotechnics in order to dazzle the public and create for itself a factitious importance, but rather, by quiet, steady, carefully-considered work, to organize sanitary effort, to acquaint itself with the health conditions of every quarter of the State, and to diffuse information which shall develop an enlightened public sentiment in regard to both rights and duties from a sanitarian stand-point. Especially will it recognize the necessity for moving with caution where the interests of trade, manufacture, or commerce apparently conflict with those of public health, aiming always to protect the latter with the least possible interference with the successful promotion of the former.

But, on the other hand, if the Legislature of this Commonwealth, acting with its usual wise conservatism, has been slow in establishing this safeguard to the lives and health of the people, the latter may congratulate themselves that a much stronger law has now been

enacted than could possibly have been passed when the first application for such legislation was made. Instead of being only a statistical and advisory body, as must then have been created, the present Board has been endowed with ample powers to enforce its regulations for the protection of the public, and this grant imposes a responsibility which the Board recognizes and will not hesitate to assume if occasion demand.

The Board cannot find more fitting language in which to conclude this address than that employed in a recent admirable circular issued by the board of health of the city of Philadelphia "for the guidance of citizens in the management of their dwellings and for personal application." It is as follows: "While the health of the community depends in great degree upon a rigid observance by officials of all the laws of public hygiene, it is no less dependent upon the faithful application of the principles of hygiene on the part of individuals. To accomplish the best results, the earnest and cheerful co-operation of the people with the health authorities in all matters pertaining to the general health is absolutely indispensable."

Ed. Wm. Germer, M. D., President.

Pemberton Dudley, M. D.

J. F. Edwards, M. D.

Rudolph Hering, C. E.

J. H. McClelland, M. D.

Benjamin Lee, M. D., Secretary.

Office of the
Secretary of the Commonwealth,
Harrisburg, July 3, A. D. 1885.

MEDICAL INSPECTION OF SCHOOLS AT MUNHALL.

Munhall, Allegheny County, with a population of a little over five thousand comes just within the pale of school districts of the third class, and so cannot participate in free medical school inspection, as carried on by the Pennsylvania Department of Health. But Munhall has a progressive School Board and a progressive Superintendent of Schools, all of which is the index that it is an up-to-date town. Prof. C. R. Stone, Supt. of Schools, said: "In order that the schools maintain a degree of efficiency in comport to the standards of Munhall, we should have medical inspection of schools."

The School Board said: "Certainly, we will have medical inspection of schools," and it was so recorded among the official transactions.

Dr. J. Bruce McCreary, Director of the Bureau of Child Health, Pennsylvania Department of Health, on a tour of inspection found Munhall, not only with medical school inspection fully established and being conducted in a manner highly satisfactory to the State Department, but a still further mark of progress, in a splendid system of follow-up, for the correction of defects.

The school physician is employed for the whole school term and is paid a good fee for his services. He is available at all times for consultation. There is also a school nurse who makes daily inspection of the school children.

Today Munhall has a record of over 75% corrections of defects found, of less absence on account of sickness—and better class records than ever before—due to the combined efforts of the Superintendent, Mr. C. R. Stone, and the School Board, composed of Mr. E. M. Cox, Secretary, Mr. E. G. Crozier, Mr. C. M. Johnstone, Mr. Kenneth Lean, Mr. H. O. Reed, Mrs. A. M. Snodgrass, Mr. C. A. Golddel and Mr. D. M. Varnum, who were responsible for this, and we say theirs is a good lead to follow.

COMMUNICABLE DISEASES IN PENNSYLVANIA DURING THE MONTH OF MAY 1924.

A total of 13,299 cases of communicable diseases was reported for the month of May, a decrease of 2,296 as compared with the previous month. Urban cases decreased 1,253 and rural cases decreased 1,043. The percentage of decrease in rural areas in proportion to urban areas was much larger than in the month of April.

There was a decrease of 223 cases of Measles, 187 of Scarlet fever, 98 of Whooping cough and 80 of Diphtheria.

Diphtheria was present in fifty-four of the sixty-seven counties of the State, Scarlet fever in sixty and Typhoid fever in twenty-eight. Twelve of the latter counties had only one case.

There was an increase of 57 in the total number of Typhoid fever cases reported as compared with April, while a comparison with May 1923 shows an increase of 16. The increase over the previous month was almost exclusively rural in character. The rate per 100,000 of population for urban districts was 0.84 as compared with 0.58 in April. The rural rate was 2.14 as compared with 0.64 in April, emphasizing again that Typhoid is a rural problem.

There were 38 cases of Smallpox reported as compared with 18 for the preceding month and 32 for May 1923. There were twelve foci of infections as compared with six in April. They were located as follows:

<i>Urban</i>		<i>Rural</i>	
Clairton, Allegheny Co.	1	Delaware County	2
Duquesne, Allegheny Co.	1	Indiana County	1
Pittsburgh, Allegheny Co.	9		
Ambridge, Beaver Co.	1		
Beaver, Beaver Co.	1		
Woodlawn, Beaver Co.	2		
Johnstown, Cambria Co.	1		
Chester, Delaware Co.	2		
Philadelphia,	5		
Donora, Washington Co.	12		

As compared with one case for the previous month there were five cases of Anterior poliomyelitis reported in May, located as follows:

<i>Urban</i>		<i>Rural</i>	
Farrell, Mercer Co.	1	Schuylkill County	1
Philadelphia	1	Venango County	1
West York, York Co.	1		

Eight cases of Encephalitis lethargica were reported for the month, the same number as for April:

<i>Urban</i>		<i>Rural</i>	
Philadelphia	6	Montour County	1
Hanover, York Co.	1		

Other communicable diseases occurring during the month, by urban and rural districts and a comparison with the corresponding month of the previous year are as follows:

	<i>Total</i>		<i>Urban</i>		<i>Rural</i>	
	<u>May 1924</u>	<u>May 1923</u>	<u>May 1924</u>	<u>May 1923</u>	<u>May 1924</u>	<u>May 1923</u>
All diseases	13,299	18,860	10,854	13,444	2,445	5,416
Anterior poliomyelitis .	5	3	3	1	2	2
Chickenpox	1,569	1,317	1,376	1,126	193	191
Diphtheria	915	939	736	729	179	210
German measles	899	251	752	230	147	21
Measles	2,669	11,819	1,979	7,621	690	4,198
Mumps	2,927	701	2,469	548	458	153
Pneumonia (true)	677	444	657	429	20	15
Puerperal fever	8	14	8	13	0	1
Scarlet fever	1,491	1,153	1,080	887	411	266
Smallpox	38	32	35	24	3	8
Tuberculosis	579	621	541	583	38	38
Typhoid fever	112	96	55	62	57	34
Whooping cough	1,195	1,252	970	998	225	254
Encephalitis lethargica .	8	8	7	8	1	0

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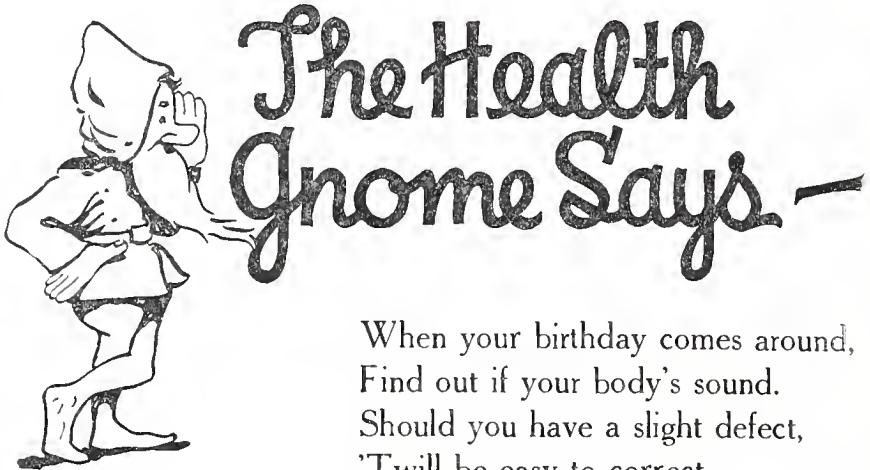


ISSUED MONTHLY

By The Pennsylvania Department of Health

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When your birthday comes around,
Find out if your body's sound.
Should you have a slight defect,
'Twill be easy to correct.

The Listening Post

A MONTHLY JOURNAL OF PUBLIC HEALTH

Editor
William C. Miller, M. D.

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CAMP OF INSTRUCTION AT MONT ALTO

Two hundred and fifty laborers in the field of Public Health attended the annual Pennsylvania Department of Health Camp of Instruction at Mont Alto. County Medical Directors, Clinic Chiefs, Nurses, Health Officers, Field Workers, all together for a week of intensive study of ways and means to increase efficiency and to promote the program which Secretary of Health, Dr. Charles H. Miner, has outlined for the ensuing year.

The men were quartered in tents provided by the Adjutant General's Department, the women were assigned to the Nurses' home.

The sessions were held in the commodious entertainment hall with a seating capacity of seven hundred which, on numerous occasions, was required to accommodate the visitors who attended.

The Camp was opened by an address by Secretary Miner, which is given in full elsewhere in this issue. During the entire week special stress was laid upon Child Health, Nutrition and Tuberculosis. The daily program consisted of Assembly at 8:00 A. M., Lectures and discussions until 10:30 A. M., Clinics from 10:30 A. M. until 12:00; Reassembly at 1:00 P. M., Lectures and Clinics until 4:00 P. M., one hour for recreation, Dinner at 5:00 P. M. From 5:30 until 6:30 P. M., excursions to different parts of the Sanatorium, 7:00 P. M. Assembly again and lectures, lantern slides and motion pictures until 9:30 P. M.

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- Dr. Henry A. Gorman,
Medical Director,
Hamburg Sanatorium.
- Mr. Andrew Bohl,
Field Inspector.
- Dr. Joseph Scattergood,
County Medical Director,
West Chester.

The Camp was honored on Wednesday by the presence of Governor Pinchot, who delivered an inspiring address on the subject of Conservation.

This issue contains the text of a number of addresses given. We shall continue to publish the transactions in subsequent issues, until the entire program shall have been covered. Special mention must be made of Mr. George Williams and Misses Helen Smiley and Cecelia

Shamp of the Department, who provided music and led the community singing, which did so much toward enlivening the regular sessions. Nor can we omit a tribute to the patients' orchestra whose evening concerts were highly appreciated.

W. C. M.

OPENING ADDRESS AT THE MONT ALTO CAMP OF INSTRUCTION

By

DR. CHARLES H. MINER,

Secretary of Health.

It is a source of very great pleasure to meet you here at South Mountain and in the name of the Department of Health I bid you welcome.

We are all engaged in the best work there is, we work for humanity and our aim should be to do it well. The reputation of the Pennsylvania Department of Health rests in our hands—a chain is as strong as its weakest link—so is the work accomplished in the field as good as we make it, not as good as we want it to be, nor as good as we know it ought to be, but as good as we make it.

There is an increasing interest in public health work. Prevention is the key note and Dr. Osler has told us, the master word in medicine is work. Our opportunity is big, but with it comes a responsibility which is gigantic. We must have enthusiasm, a desire to make our part of the work the best in the country; such enthusiasm is exemplified in my co-workers of Luzerne County—Mayock with his campaign to suppress venereal diseases; Davidson with his pioneer work in medical school inspection and pure milk campaign; Kocyan with his prenatal work; Wyckoff with her fine nutrition clinic, and Blair in her nose and throat clinic. The State is full of just such men and women doing great work, which is recompensed mainly by the feeling of personal gratification at having done a good thing well.

Recent investigations over the United States have demonstrated that a third or more of all children are underweight, undernourished or malnourished, physically and in consequence mentally unfit. This neglected third, over 800,000 in Pennsylvania, is unrecognized in the home, the school and the community. The facts are not understood thoroughly by the medical and nursing profession or by school authorities. The problem of nutrition is fundamental in the upbringing of a child. The main object of this camp is to emphasize these facts and to begin at the beginning by working to reduce the infant mortality rate and then to care for the preschool and school children of Pennsylvania.

The death rate from all causes has fallen 23 percent since 1906. The death rate of 1906 applied to the population of 1923 shows a saving of more than 30,000 lives, whose economic value to the State is estimated at \$75,000,000. Had the death rate of 1906 continued to prevail until the present time, more than a half million of people now living would be in their graves, which in dollars means one billion two hundred and seventy-five million dollars.

In the fourth class school districts of Pennsylvania, which comprise the strictly rural districts, there is a wastage of \$9,000,000 per year, because 25 percent of the pupils do not progress from year to year as do the remaining 75 percent. Two or more extra years are often required to bring this group into line with the established schedules of educational advancement. Of the delinquents 20 percent fail, because of inadequate mental capacity, and 80 percent on account of physical handicaps. Of the latter, one-fourth are deprived of their school opportunities by reason of the existence of communicable disease.

We must spend more time and money on the education of the people in personal hygiene, so that physical defects will be corrected, malnutrition prevented, and communicable diseases better controlled. We need more public health nurses and trained health officers, especially in the rural districts and in the coal regions. Dr. Dublin tells us that if we make a special effort to improve industrial hygiene, we will reduce the tuberculosis mortality rate from 85.5 per hundred thousand to 50.0 per hundred thousand by 1930. 18 years have been added to the average duration of life in two generations, it is now 58 years; it can be increased to 65.

The most important public health work in the future is to reduce the infant mortality. About 220,000 babies are born in Pennsylvania every year. In 1923, 19,349 died—that is, 88 babies out of every thousand born alive, died before they were a year old; most of them in the early months of life. We must give better prenatal care, prevent syphilis and secure better obstetrics. The service to the people is greater in prevention than in the cure of disease. That there is a great future for the men, socially and financially, who will practice preventive medicine in their general practice—not wait to see their patients after they are taken sick, but supervise the personal habits of every member of their families, prevent over-fatigue, nervous strain, and malnutrition; prevent the advances of diabetes, high blood pressure, heart disease and nephritis by good health habits.

The most difficult accomplishment of the Pennsylvania Department of Health has been to continue all its activities, and maintain all three tuberculosis sanatoria with a 26 percent reduction in our appropriation. To accomplish this, we combined 19 Divisions into 10 Bureaus, reducing overhead expenses in the Central Office. We maintained fewer patients at the South Mountain Sanatorium and examined only the children in the first two grades in the fourth-class rural school districts. To render greater service to the people of Pennsylvania through more intimate contact of the field forces of the Department with the public, we planned to establish field headquarters for the district engineers and their assistants. One engineer has moved into his district and established offices in the building used by our state clinics in the central city of that district. This is an experiment which we hope will prove satisfactory and give increased efficiency.

A special effort has been made to place the work in the field on a full time basis, in charge of men specially trained in public health work. To insure this special training, full time health officers or sanitary inspectors have received a six weeks' course at the United

States Medical Field Service School in Carlisle, the officers in charge of this school having shown a gratifying desire to cooperate in this important work. In the thirty-six districts where trained nurses are being used as health officers, they have already proven their value. The nurse besides instructing the family about the sanitary conditions in and around the home is able to advise as to the proper care of the patient and the needs of the other members of the family. By placing full time health officers and nurses in each district, we have been able to reduce the number of part time and less efficient health officers by four hundred during the present year. Another plan to arouse local interest in health work is the turning over of tuberculosis, genito-urinary and child health clinics to the communities ready to assume this responsibility.

With an ambulance converted into a field laboratory, we have started to analyze the drinking water used by the motorists traversing the state highways. Not only will the conditions of the water be tested, but steps will be taken to correct insanitary conditions that may be found in and about eating places along the highways. As soon as the tests are completed, the results will be forwarded to the field engineers who will post placards stating the findings over the wells or springs or in the eating places.

An intensive campaign has been carried on to reduce the infant mortality rate in communities having a rate in excess of the average State rate. The work in each community is under the direction of a Department Chief, who, in cooperation with the County Medical Directors and all local agencies, endeavors to arouse a spirit of competition between the communities and secure the employment of an additional nurse financed jointly by the community and the State Health Department.

Since the beginning of the present administration, the Cresson and Hamburg Tuberculosis Sanatoria have been run at full capacity; South Mountain was run at full capacity until June 1, 1923, when the contract with the Veterans' Bureau lapsed. At that time the hospital was closed on account of the lessened appropriation, and we were compelled to reduce the number of patients in the Sanatorium to 300. This number has gradually been increased until at the present time we are caring for 650 patients at South Mountain. The building formerly used as a Veterans' Hospital has been opened this summer for children; two hundred are now being cared for.

On April 4, 1923, the Advisory Board of the Department of Health approved a regulation requiring all milk sold to the consumer as raw milk be obtained from tuberculin tested herds and that all other milk be pasteurized as defined in the regulation. A medical examination is required for those who handle raw milk, those who pasteurize milk and handle milk after pasteurization. Since this regulation became effective applications for the herd tests according to the official plan have increased by the thousands. Fifty-four municipalities with a total population of 1,000,000 are now supervising milk supplies according to ordinances recommended by this Department.

With your cooperation a campaign to eliminate diphtheria from Pennsylvania is in progress. To date 83,084 children have been

immunized and there were 75 less deaths from diphtheria in 1923 than in the preceding year. These figures do not include Philadelphia and Pittsburgh where local campaigns have been carried on.

During the school year, 1923-1924, the Department through its School Division has made a determined effort to raise the standard of school medical inspection work throughout the State. An intensive campaign for universal vaccination of all children of school age has been waged, including special examination and follow up of parochial and private schools and academies, as well as public schools. In association with the State Medical Society, we have enlisted the cooperation of social organizations and life insurance companies in the campaign for yearly health examinations.

Under the Department of Health with the new organization comes the Sanitary Water Board, composed of the Secretary of Health as Chairman, the Secretary of Forests and Waters, the Attorney General, the Commissioner of Fisheries, and the chairman of the Public Service Commission. The powers of the Sanitary Water Board include: (a) The administration of the laws prohibiting the pollution of the waters of the State. (b) The study, investigation and reporting upon ways and means of eliminating and preventing stream pollutions which are detrimental to the public health, the health of animals, fish or aquatic life, or the recreational use thereof.

The service which has been rendered to the human race by the medical and nursing professions in the prevention of diseases during the past fifty years is the noblest example, afforded by history, of successful philanthropic human activity. The physician through his private practice is best equipped of all agents to render service to the people, representing as he does the connecting link between scientific research and popular need. The health of the people of the State is primarily the concern of the members of our profession and preventive medicine in the fullest meaning of the term should not be left to health departments. It concerns our profession as the agents who secure close contact with the individual man, woman and child.

ENTHUSIASM IN PUBLIC HEALTH WORK*

By

DR. EDGAR M. GREEN,

Member of State Health Advisory Board.

As a member of the Advisory Board of the State Department of Health, I want to say that you, the practical workers in the field, are the most important elements in this battle, we are waging against disease. You are in the advance guard of an army which brings about inestimable benefits to mankind.

In any walk of life it is necessary to have a feeling of enthusiasm and enjoyment in one's work. The individual who can make play of his or her work is much more sure to succeed than the one who feels his work to be a drudgery and not a pleasure. The practice of medi-

* Extract of Address given at Camp of Instruction.

cine in all its branches is particularly fascinating, because there is so much to be learned. There are always new theories and discoveries to be studied. No matter what one's accomplishments or achievements are, there is always a great field ahead, and this should stimulate one to additional effort and work.

We are only working from day to day along our special lines. Often have I seen patients get well, when I thought recovery impossible. This should lead us to be very careful about prophesying about the future, even though our diagnosis be correct; Providence, I think, never intended that we should know about the future nor foretell what is to happen. In health work particularly, one meets very frequently with mountains of discouragement. People even of education, refinement and wealth question the propriety and accuracy of our labors. They doubt the advantage of spending large amounts of money upon sanitary improvement, and, as has been said, they are willing to spend more for caring for their cattle than to improve sanitary conditions of the community. We shall only make headway by persistent work in spite of opposition. When we see our plans frustrated and our efforts interfered with, we must not give up, but continue with repeated efforts, no matter what discouragement we encounter. Any of you who have been long enough engaged in health work to look back over a period of fifteen or twenty years can see what great good has been accomplished during that period.

The death rate from Tuberculosis has greatly decreased. Typhoid fever is becoming quite rare. It appears probable that in the near future Diphtheria may be even more rare. These are only a few examples, but they show what can be accomplished. We should then never be discouraged, but fight on with determination and zeal. Remember that in contact with the public and individuals, it is necessary to develop tact in your work. Remember too, that personality of an unusual sort must be developed, because, as a recent writer has said, "Personality is the most subtle and determining force in all the world."

HEALTH EXAMINATION AND 70+.

A friend of the writer was proud in the possession of a high powered automobile. It had gone thousands of miles without need of any repairs, except the most commonplace sort of attention. One day as he was about to start on a long vacation trip, it occurred to him that it might be a good idea to have it looked over. Generally it was all right, but the mechanic found a crack in an axle, which would have given way at any unusual jar. He repaired it, of course, and the machine has been holding up splendidly ever since—just another instance of finding out before it is too late.

In recent issues of the "Listening Post", we have been stressing the slogan "70+", which means, you may live far beyond the limit of three score and ten, if you keep yourself fit, and the way to keep fit is to find out where the weak spot is.

We are, for the most part, average persons, and average persons begin to wear some place or other along about the age of thirty-five or forty. It may be the kidneys—a medical examination will tell the

story, and the answer will be, many added years of life, if the simple directions be followed. Perhaps it is the heart—the same applies, and so along the line of the five degenerative diseases (Bright's disease, Diabetes, Heart disease, Cancer and Tuberculosis), from which 33,000 persons needlessly die in Pennsylvania each year. "Have a Health Examination on your birthday."

Help others to think of the possibility of life extension by putting the sign 70 + on the envelope of every letter you write.

W. C. M.

EFFECTS OF DUST IN RELATION TO TUBERCULOSIS AND PNEUMONIA.

By

DR. SAMUEL R. HAYTHORN,

Member of State Health Advisory Board.

A great deal has been written upon the relation of dust to pulmonary diseases, particularly with reference to persons working in dusty trades. Statistics indicate that tuberculosis is more common in stone workers and perhaps less frequent in coal miners than in persons engaged in non-dusty occupations. As there seems to be a fairly good reason for the statistical findings in the lung changes following the inhalation of large quantities of dust, this communication will attempt to show why some dusts may tend to protect the lungs from certain forms of tuberculosis while other dusts do not.

Dust diseases are not limited to effects upon the lungs, since various dusts may act as irritants to the skin, sclera, and to mucous membranes, as sensitizers leading to anaphylactic reactions and as actual poisons through their absorption in the upper air passages and through swallowing. It is our intention, however, to confine ourselves to the processes which go on in the air sacs, lung tissues and associated lymphatics.

The extent to which dust may affect the lungs depends upon at least four things: (1) the quantity of dust inhaled; (2) its chemical nature; (3) its physical state and (4) upon whether or not it is contaminated with pathogenic bacteria. As far as the quantity of dust is concerned, the exact amounts necessary to produce pathological changes are unknown, but moderately large quantities of most dusts can be inhaled without much damage and it is only upon continued daily exposure over considerable lengths of time and to relatively dusty atmospheres that active changes in the lungs are brought about.

With reference to their chemical nature dusts may be broadly divided into organic and inorganic dusts. Among the organic dusts are, (1) street and factory sweepings, grain mill dusts, wood working and horn polishing dusts, stable dusts, plant pollens, etc., any of which apparently may produce sensitization, act as irritants or carry infection and (2) coal dust, smoke and soot, which are made up of inert carbon particles acting more like the inorganic dusts and producing that form of pneumokoniosis or lung fibrosis, known as anthracosis.

The inorganic dust may be further divided into (a) poisonous metallic dusts, as for example those of lead, mercury, phosphorus and zinc, any of which may produce poisoning through inhalation; (b) non-toxic metallic dusts such as iron which brings about a lung fibrosis called "siderosis"; (c) soluble alkaline dusts as calcium which is largely absorbed by the lungs and excreted and, (d) insoluble silicious dusts which produce chalicosis or silicosis and of which marble, granite, and carborundum are good examples.

The physical state is important depending upon the crystalline state of the particles, their molecular weight, their relative solubility and, according to some observers, upon their size. Colloidal dusts are being studied extensively and include all particles less than 1/25,000 of an inch in diameter.

That disease may be produced by infected dusts has been proven experimentally, so that their importance, which has been denied by some, cannot be neglected unless we have more reliable data than are at hand at present.

In 1912 a series of studies upon the "Influence of Smoke on Health" were made at the School of Medicine, University of Pittsburgh, under Fellowships granted by the Mellon Institute of Industrial Research. Beginning at this time, I have made several investigations upon the effects of coal dust upon the lungs as evidenced both by experiments and post mortem findings, and it seems to me that anthracosis is the key to an understanding of the various lung fibroses and to their relation to the commoner lung infections, as tuberculosis and pneumonia.

* * * * *

When one examines the normal lung microscopically, the air sacs contain no exudative cells and there is practically no black pigment present. When the lungs of the average Pittsburgher are examined in the gross, there is a considerable amount of black pigment irregularly distributed upon the pleura and when the lung of a coal miner is examined, it is found that every bit of the pleura is quite deeply pigmented so that the whole pleural surface may present a blue-black spotted appearance. When such a lung is sectioned, it is found that the cut surface presents many black patches, some of them nearly a quarter of an inch in diameter, and closer observation shows that these patches are larger and more numerous just beneath the pleura and around the vessels than elsewhere. The location of these areas of distribution are confirmed upon microscopic examination.

* * * * *

In studying human anthracotic lungs removed at necropsy, we find the greater distribution of pigment cells is in the alveoli and in the perivascular and subpleural lymphatics. If the individual has died from an extra-pulmonary condition, the pigment cells are of the spindle shaped type and the amount of fibrosis about them depends upon the extent of the process. On the other hand, if the individual has had an oedema or serous exudate in the lungs at the time of death, the pigment cells are round and swollen and the fibers of the surrounding tissues separated by the fluid, just as in the rabbit ear experiment.

A similar fibrosed and pigmented condition may be found in the lymph nodes and a node may be almost completely incapacitated as far as its function of drainage, or filtration is concerned.

* * * * *

If one injects mixtures of carbon and tubercle bacilli into an animal one finds that tubercles may be formed almost entirely from the mononuclear cells which take up carbon pigment and that these cells, not only take up the pigment, but engulf tubercle bacilli as well. I have been able in many instances to show secondary tuberculosis in distant parts of the animal body formed from cells containing tubercle bacilli and pigment. As there was no diffuse pigment in the areas of secondary tuberculosis, it is reasonable to deduct that the cells came from the primary focus and carried both the pigment and the bacilli to the new site. In other words, the intracellular distribution of tubercle bacilli cannot be doubted, although one would not for a moment question the transpiration of free tubercle bacilli by the way of the lymph and blood streams. The fact that anthracosis produces a fibrosis of lung which depends upon the activities of a cell common to both processes has an important bearing upon the relation of the two conditions.

The fibrosis associated with anthracosis does not appear to limit the spread of tuberculosis by way of the blood stream, although the resulting tubercles usually contain large numbers of pigmented cells. However, it does appear to limit the lymphatic distribution of tuberculosis and to aid in preventing the direct extension of caseous foci. I think it explains the very common post mortem lesion of an isolated apical caseous focus completely walled off by thick bands of black connective tissue which one finds microscopically to be made up of layers of spindle shaped mononuclear pigment cells caught in bands of fibrous tissue.

Another common lesion is the presence of large areas of tuberculosis in the peribronchial lymph nodes of individuals in which not a single active tubercle of the lungs can be found. Such a lesion indicates that infection has taken place at an earlier time before many channels were closed, but that spread did not take place in the lung tissues themselves.

If anthracosis limits tuberculosis, the question arises as to why carbon inhalations would not be beneficial for the treatment of tuberculosis. There are several points against such an assumption. (1) Carbon pigment in the air passages acts as a general irritant producing coughing and choking and more or less inflammatory congestion, all of which are undesirable for the healing of local tuberculous processes; (2) the activities of the pigment cells would be stimulated by such an inhalation and perhaps released by congestion, so that they might be led to distribute tuberculous foci as well as to carry pigment and (3) most important of all, the anthracotic process is so much slower than the tuberculous process, that it would be utterly useless as a means of combating the disease.

In the instance of the stone cutter's lung, the condition is entirely different. Gye and Kettle in England and Gardner in this country have shown that when silicates are injected, necrosis is produced

and that when tubercle bacilli of too low virulence to produce progressive lesions into such necrotic areas, they produce an active progressive tuberculosis. The stone cutter's lung contains, not only large areas of fibrosis, but practically all the fibrosed areas contain necrotic centers. Such lungs become infected with tubercle bacilli at a very early stage and there seems to be no doubt that the presence of stone dust in the lung predisposes to tuberculosis. Moreover the type of fibrosis does not prevent the spread of tuberculosis and in sections of lungs, kindly furnished by Dr. Sayres of the United States Bureau of Mines, it was found that active tuberculosis was present in the lungs of individuals who had not worked in mines for years, and that progressive lesions were present in the margins of the silicotic masses. There seems to be no question then that silicious dusts in the lung increase the individual's susceptibility to tuberculosis and furnish a favorable soil for the development of that disease.

Where pneumonia occurs in an anthracotic lung, the presence of extensive fibrosis is very unfavorable. It is an interesting point that early in the pneumonia exudate, the carbon pigment bearing cells are seen in great numbers in the alveoli, whence they have migrated after being released by the oedema from their incarceration in the fibrosed areas. One has only to study a few lungs to note the extreme activity in the lymphatic channels and in the sinusoids of the peribronchial lymph nodes during the resolution stages of pneumonia, to realize their importance and when these are closed the proper resolution of the exudate must be materially interfered with. It is for this reason, I believe, that we see a relatively high percentage of delayed resolution, and of healing by organization associated with advanced anthracosis.

There seems to be no doubt from the statistics that Pittsburgh has had many epidemics of unusually severe and highly fatal pneumonia. Pittsburghers as a rule have more anthracosis than most other municipal inhabitants, and this leads one to believe that it is not so much an unusually virulent type of infection which visits us, year after year, but that there is some relation between anthracosis and the resistance to pneumonia as a disease.

Just what that relationship is has not yet been shown.

SUMMARY. In summing up the relationship of dust to disease, we have limited ourselves to carbon and stone dusts in relation to tuberculosis and pneumonia. We have built the argument about the anthracotic process which we believe has been quite thoroughly and satisfactorily elucidated, and which appears to consist in the phagocytosis of carbon pigment by mononuclear cells which pass into the lymph channels and to the lymph nodes producing fibrosis of the surrounding tissues and occlusion of the lymphatic channels. The process is not associated with necrosis and when well developed appears to hinder the spread of tuberculosis and to interfere with the proper resolution of pneumonia. In the various silicious dust diseases the process is one of fibrosis which occurs about necrotic areas and which, while more widespread in distribution, is not so consistently located within or about lymph spaces. We have not had the opportunity of studying pneumonia in relation to "stone cutter's" lung, but there can be no doubt that stone or marble dust prepares the soil for the development and spread of pulmonary tuberculosis.

TYPHOID FEVER.

By

DR. J. MOORE CAMPBELL, Director,
Bureau of Communicable Diseases.

Typhoid fever is an acute infectious disease, characterized by intestinal and general (systemic) symptoms resulting from the local action of the germs in the small intestine and the general poisoning of the body by the toxins they produce.

The causative germ is the bacillus typhosus—a mobile, rod-shaped organism. Sometimes it is mentioned as the bacillus of Eberth, who discovered it in 1880. It may be looked upon as normally an inhabitant of the human intestinal tract, from which it escapes with the dejecta. It may also be found in the urine of those suffering from the disease and the stools and urine of carriers, in the blood of patients and occasionally in their saliva. It will be present, therefore, in streams which are subject to pollution by human excrement—sewage. Springs and wells in densely populated districts are also likely to be polluted and in certain subsoil formations (especially limestone) almost certainly so through the agency of underground water courses, which are frequently little more than sewer pipes.

Milk becomes infected through the handling of the utensils or in the milking by one who contaminated his hands through contact with a patient, by the hands of a carrier or those of the patient or convalescent himself. It may also be infected by the use of polluted water in washing utensils.

Pasteurization alone offers to the general public a milk supply which can be looked upon as safe from the typhoid fever standpoint. Pasteurization consists in heating the milk to 140 degrees Fahrenheit, holding it at this temperature for thirty minutes and then rapidly cooling it.

Vegetables washed in polluted water or grown in it (water-cresses) and finally eaten without cooking may carry typhoid infection. So, also, may oysters fattened in the mouths of polluted streams.

The bacillus has not more than the average resisting power to drying and sunlight and does not form spores. Freezing does not kill it, although it apparently dies out in ice which has been stored as long as three months. It is destroyed at a temperature of 60 degrees Cent. It will live for varying periods of time in water and thrives in milk. It does not survive in well ripened cheese and it may be a question whether it exists for any length of time in butter.

Typhoid fever is contracted only through the eating or drinking of typhoid germ infected foods, water or milk or in the putting of infected fingers into the mouth. Any explanation for the occurrence of a case or series of cases of typhoid which does not include the possibility and probability of infection in the manner stated must be rejected. Filth of any sort will not cause typhoid fever unless that filth contains typhoid fever germs and unless hands or food or drink

contaminated with this typhoid infected filth is introduced into the mouth. No quantity of filth, unless typhoid germ laden, can give rise to typhoid fever.

The incubation period of the disease is ordinarily something between fourteen and twenty-one days. Infrequently it may be as short as ten days or as long as four weeks. Early diagnosis is essential. The symptoms which present themselves at the end of the incubation period are indefinite and insufficient to make a positive diagnosis of typhoid fever. As much as a week or ten days may elapse before they become sufficiently distinctive. The difficulty of early diagnosis is increased if typhoid fever has not been present in the community. Every case of continued fever, without adequate explanation for this fever, should be looked upon as one of typhoid fever, especially when the disease is prevalent, and every measure should be taken to prevent its spread to other members of the household or the neighborhood, until the course of illness is not typhoid fever.

The laboratory tests for the disease commonly depended upon are three in number. All are limited in usefulness so far as early diagnosis is concerned.

1. *The Widal Test*—most often used but seldom positive until after the tenth day of disease. It is performed by adding a small quantity of the patient's blood serum, diluted, to a similar quantity of a broth culture of living typhoid organisms. If the patient has typhoid fever, through the action of an antibody, he has generated, called agglutinin, the typhoid germs in the mixture lose their mobility, are clumped together in bunches and fall to the bottom of the tube where the whitish mass of clumps can be seen by the naked eye—the fluid above becoming clear. If the case is not one of typhoid fever, the serum from the patient contains no typhoid agglutinin and the sedimentation of bacterial clumps does not occur in the mixture, which remains generally cloudy as it originally was. The same reaction may be done with a drop of diluted serum and a drop of the broth culture of typhoid germs, which are examined microscopically after being mixed. If the result be positive, the germs are found to be motionless and grouped together in bunches resembling chestnut burs—they are agglutinated. If there be no typhoid fever and the result negative, the germs are seen singly and "swimming" freely about. The Widal reaction remains for years; in some instances after the patient has recovered, and is present in a percentage of those who have taken typhoid vaccine. It is, therefore, of no value as a means to diagnoses in these individuals.

2. *Examination of the Stools for Typhoid Germs*—stool culture. This consists in planting and growing on suitable foodstuffs (media) a very minute portion of the patient's stool. Many types of germs other than the typhoid bacillus will be present, but the laboratory worker is able, by special procedures, to identify the typhoid germ, if it is there.

This test for typhoid fever has the following objections from the early diagnosis standpoint:—It requires several days' laboratory work and is not likely to be positive before the end of the second week of the disease—the germs not being thrown off with the bowel movements

in any great numbers until about that time. When positive, however, it is a much more valuable test than the Widal.

3. *Examination of the Patient's Blood for Typhoid Germs*—blood culture. This is the least used of the three but in all respects the most valuable, because it is usually positive in ninety percent or more of the cases of typhoid fever before the end of the first week. It is, therefore, the only laboratory test which may be likely to assist in the diagnosis of the disease before the symptoms themselves have made the condition plain. The Widal and the stool culture ordinarily confirm a diagnosis already made. The blood culture will frequently make the diagnosis.

The test consists in adding to a suitable medium about ten cc. of the patient's blood. Any germs which grow are studied for the characteristics of the typhoid germ.

The management of the case from the health officer's standpoint has in view the prevention of secondary cases in the same household and the protection of the neighborhood from similar infection.

In accomplishing these aims it must be kept steadily in mind that the only sources of danger are the discharges of the patient. The essential feature of the control, therefore, is the destruction of this infectious material promptly. If successfully accomplished, there can be no secondary cases.

The patient should be isolated in a room suitable for his comfort and needs and, in order to minimize contact with him, no one should be allowed to enter the room except the physician and his attendant. Every conceivable way in which infection might be carried from the room is to be met and blocked. Apart from the discharges themselves, it is evident that the bedding will readily and certainly become contaminated. The patient's own hands will become contaminated and through their movements will contaminate everything they touch. The nurse's hands will likely be infected every time she gives any attention to the patient or his bed. Everything which may directly or indirectly, grossly or invisibly, become contaminated must be rigorously disinfected. Bowel and bladder discharges should be received in a bedpan containing a solution of chloride of lime in the strength of three percent. The discharge should be thoroughly mixed with this disinfectant and should then be allowed to stand, with the vessel covered, for at least one hour before being finally disposed of. Soiled bedding, towels, wash cloths, should be removed immediately to a metal container partially filled with water and placed upon the stove to be boiled for an hour before being added to the family wash or otherwise handled. So, too, the eating utensils of the patient. The nurse's hands are probably the most dangerous of agents for the spreading of infection. She will be required to go in and out of the room repeatedly—may even have the family to look after, as well as the patient. Unless her hands receive proper care, it is not unlikely that she will infect not only herself but several of the household as well. After each attention bestowed upon the patient or his bed, the hands should be scrubbed with soap and water, especially under and about the fingernails, and, after rinsing, should be immersed at least one minute in a satisfactory germicidal solution, such as lysol or

1-20 carbolic acid. A single instance of the neglect of these precautions may be disastrous. Refuse from the sick room should be burned immediately and the patient's bath water should be sterilized by the addition of a sufficient quantity of chloride of lime before it is discarded.

Final disposition of the patient's excreta may be accomplished in one of the several ways. Under no circumstances should undisinfected, hastily or carelessly disinfected excreta be disposed of in any manner. The secret of safety is thorough disinfection before disposal. After standing in contact with the chloride of lime, as already mentioned, they may be emptied into the flush toilet, if one is available. If this is done, additional quantities of chloride of lime should, from time to time, be thrown into the hopper. The ordinary privy may be used, if it be well located with respect to springs or wells and is fly and animal tight. In addition to these requirements, unslaked lime should be spread over its contents frequently.

The trench is a perfectly satisfactory receptacle for the disinfected discharges. It may be dug at any convenient location, provided this be not within two hundred feet of a well, spring or stream or on a hillside down which its contents may be washed. The trench should be four feet long, three feet deep and a foot wide. Unslaked lime should be at hand. Every deposit of excreta should immediately be covered with lime and then with earth, proceeding thus until the trench is filled to within a foot of the surface of the ground, when a generous layer of lime should be added and the trench filled with earth. During its use, the ground about it might well be kept limed.

During the fly season the sick room—whole house—should be screened. Flies have a predilection for filth and a traveling range of perhaps a thousand yards. Through access to the sick room, they readily become mechanical carriers of infection on their bodies or legs to the food of others in the household or even that of neighboring families. The fly is a recognized conveyor, in this way, of typhoid fever infection. Such as may be found in the sick room or house should be promptly killed or trapped.

The health officer should take nothing for granted or be too easily satisfied with respect to the manner in which precautions are being observed in the household. It is well to have the nurse's procedure described by her and to see that the disinfecting agents are actually at hand. She cannot be too forcibly impressed with the importance of cleansing her hands.

An effort should be made to determine the source of infection of each case of typhoid fever in order that it may be destroyed or made inaccessible to others. While certain rules for the conduct of investigations into outbreaks of typhoid fever may be laid down, much of the success or failure of the investigations depends upon the investigator's knowledge, experience and his ability to reason clearly from effect to cause—to pick up, as it were, almost intuitively the back track of occurrences which lead him to the source of infection. The search is particularly difficult when the case is a solitary one or where there is but a very small number to study.

Every case must be studied. The date of onset of illness should be secured as accurately as possible, since it is from this that the probable date of infection is to be calculated—that is, allowing for the average incubation period of the disease, infection may be assumed to have taken place from twelve to fourteen days prior to this date of first symptoms. The inquiry is narrowed, then, to movements of the patient at about that time. It may be found that the patient was away from his own neighborhood when infected. If so, his definite location, householder's name and address, and any other helpful information should be transmitted to the health authorities of the community, where infection is suspected to have taken place, in order that they may continue the investigation. If for weeks or months prior to illness, the patient has been at home following his usual routine, the source of infection must be sought in his own neighborhood. Isolated cases may frequently be due to association, even temporarily, with a typhoid carrier. It is important, therefore, to know whether any other member of the family, months or years previously, may have had typhoid fever, whether any visitor to the home may have had a typhoid history, or whether visits may have been made to the home of a carrier or of a case of typhoid fever. Any information elicited tending to suggest this contact with a probable carrier should lead to the examination of the stools and urine of the suspected person for typhoid bacilli.

Water samples of any supplies on the premises should be taken and sent to the laboratory for examination. Undue weight should not be given a bad report, however. Animal contamination will give the same result as human, and a spring or well bacteriologically bad is not, for that reason, necessarily a source of typhoid fever. It is essential to get behind the bad spring or well in order to show that it could and did receive sewage pollution, before it may confidently be suspected as the real source of infection. The food, drink and association history of every isolated case of typhoid fever should be recorded in order that it may be compared subsequently with that of other isolated cases in the same general neighborhood. Something in common with the preceding case or cases eventually may thus come to light and lead to what has been an unsuspected carrier or other source of infection.

Epidemics of typhoid fever may be sudden—explosive—in their appearance, or may develop more or less gradually. Occasionally there may be periods of several days or longer during which the epidemic appears to subside, only to be followed by a series of new cases. The manner in which they make their appearance is an important observation and frequently suggests the direction in which the investigation should be pushed. In a general way, granting that exceptions occur, sudden outbreaks suggest a waterborne infection, while the more slowly developing are oftener due to milk or a carrier, as are also those which are intermittent in their advance.

It is incumbent upon the epidemiologist to get at once a general impression of the features of the epidemic, in order that emergency remedies may be applied during the interval taken up by more careful study, looking to permanent correction, if at all possible, of the fault resulting in the epidemic. Such emergency orders might include

notice to boil water intended for domestic use or the prohibiting of the sale of a certain milk or ice cream.

With carefully made censuses of each case, the real study of the situation begins. An analysis of these should include a study of the onset dates and arrangement of cases according to onset, so that the number of cases falling sick on each day may be plotted on a chart. Such a diagram serves to show at approximately what time the wholesale infection took place and the course of the epidemic, whether continuing to spread or whether declining—that is, whether the causative agent—water, milk, what-not—is still active or whether apparently there was one or more doses of infection which had passed and was not being repeated. A study of age groups is important. Water-borne epidemics involve all ages and sexes, because all use water. Milk-borne epidemics produce a majority of cases among children, since they constitute the majority of milk consumers. Grouping according to sex, color and spotting cases on a map of the community, all have their uses and frequently give suggestive information and narrow the search for the common infecting agent to such a group or small locality.

Since the infection must have been carried by some agency used by all the cases, such as a public water supply, and since no agency not common to the whole group of cases can be looked upon as having transmitted the infection, the search for the real cause can be facilitated by throwing out at once such possible agencies as do not fulfill the requirement of being common. In an outbreak in which it is found that the milk supply of the families involved was from a number of milkmen and that a proportion of the families used canned milk exclusively, milk as the cause of this epidemic may be excluded at once. If all cases give a history of having used the same public water supply and yet are confined to a certain definite area of the town, it is obvious that, although common to the cases, the public water supply can hardly be suspected, since the whole town uses it and typhoid has appeared in only one small neighborhood of the town. The public water supply and milk being thus satisfactorily accounted for, the search has narrowed to something in common to the neighborhood only. If, further, it be found that all the cases had used water from a neighborhood well in addition to the public supply, suspicion is properly directed to this well. This suspicion becomes certainty when further investigation brings to light a missed case of typhoid fever, occurring weeks prior to the epidemic, in the family on whose ground the well is, and it is further shown that a sewer pipe from the house, laid close to the well, is broken and leaking in such a way that the well has been polluted.

The possible combinations of circumstances leading up to any epidemic are innumerable. Through elimination of impossible agents of infection and concentration on those that remain as probable, the mechanism of the outbreak can usually be explained. But nothing must be taken for granted. All evidence must be thoroughly sifted.

Along with the search for the primary cause of the trouble must go means to prevent secondary cases. This is sought through enforcement of proper excreta disinfection and disposal and other

measures already mentioned as necessary for the protection of the household. The visits of public health nurses to the stricken families is invaluable—not for the purpose of bedside nursing, although occasionally this may be added, but to check up on the intelligent following out of instructions received by the householder and attendant upon the patient. Hospitalization of the sick is of value, not only in preventing secondary cases, but in favoring the recovery of the patient when ignorance and lack of facilities at home do not assure him the best of care. Under such circumstances removal to a hospital, if available, should always be urged. In large epidemics the organization and equipment of temporary emergency hospitals are frequently of the first importance.

Attention must be paid to sanitary conditions generally. Fly breeding nuisances must be destroyed and general clean up enforced, preferably under the supervision of a sanitary engineer. It is axiomatic that when the source of infection is such that it can be eliminated forever as a typhoid menace, this elimination should be accomplished. No anti-typhoid work has been completed, if it leaves behind it the possibility of a repetition of the epidemic—from the same source at least.

Vaccination Against Typhoid Fever is a measure of great importance in communities, where typhoid fever is routinely present, and for those whose occupations require travel or which otherwise expose them to water supplies or other sources of infection which may not always be safe.

The vaccine consists of a suspension of dead typhoid germs in salt solution and is injected under the skin with a hypodermic syringe and needle. Three doses are given at intervals of seven to ten days. The first dose contains five hundred million dead bacilli and the second and third each one thousand million. The presence of these dead organisms gives rise to the production of antibodies which protect the vaccinated against subsequent infection with any living typhoid germs which may be taken with food or drink. It requires from six to eight weeks for the productions of this immunity after the last dose has been received. It may not be sufficient to protect against exceedingly large doses of infection.

It is in no sense a substitute for such typhoid fever control measures as pure water supplies, pasteurization of milk, proper sewage disposal plants, the elimination of unsafe wells and springs and widespread sanitary improvement of a general nature. For these reasons it has always held a relatively insignificant place in the typhoid fever control work of the Pennsylvania Department of Health. Nor has it been urged or used with any confidence by the Department for the protection of communities during the existence of an epidemic. It is thought to be unnecessary under these circumstances because:

1. Epidemiologic investigation ordinarily locates and eliminates the source of infection within a few days.
2. Those in the community already infected will not be protected by it.

3. The time required for producing immunity by its use is long and the uninfected in the community can be protected by the discovery and elimination of the infective source long before the vaccination would protect them.

4. Its use may bring about a sense of unwarranted security which may render the individual careless as to exposure to probable infection.

PENNSYLVANIA'S WAR ON TUBERCULOSIS.

By

DR. JOHN D. DONNELLY, Chief,

Division of Tuberculosis Clinics.

Tuberculosis work in Pennsylvania had a humble beginning. In 1902, Dr. J. T. Rothrock, Commissioner of Forestry, recognized the possibilities of Mont Alto as a site for a Tuberculosis Camp. With a very small appropriation by the Legislature and by the aid of his many friends, he built a crude camp which furnished shelter, fuel, water and medicine, and installed a matron and doctor, his son, Dr. A. M. Rothrock. The camp grew and proved its usefulness. In 1907, the camp was transferred from the Department of Forestry to the Department of Health. Dr. Samuel G. Dixon, Pennsylvania's first Commissioner of Health obtained an appropriation of \$600,000 which provided the nucleus for the present buildings and improvements.

The Tuberculosis Division of the State Department of Health was organized in 1907, for the establishment and maintenance of chest clinics for free treatment of indigent people suffering from tuberculosis. Within a year sixty-seven clinics were in full operation—one in each county.

An educational campaign was launched through the clinics designed to acquaint the people with the danger signs of existing tuberculosis, to instruct them in methods of prevention and to attract the attention of all to the facilities offered by the clinics and Sanatorium for the diagnosis and treatment of tuberculosis.

Two erroneous impressions of tuberculosis had to be eradicated; the belief that it was hereditary and that it was incurable. Clinic Physicians lectured in all parts of the State. Nurses demonstrated and helped convince patients and their families by methods of care and prevention in their homes. The newspapers gave such whole hearted support in making public successful methods for combating tuberculosis.

EXHIBITS.

In 1908, Pennsylvania's first Tuberculosis Exhibit was prepared and displayed at the International Congress on Tuberculosis held in Washington. It was augmented for traveling by a lecturer, man-

ager and assistant. It illustrated the Department's method of combating tuberculosis, including general educational, clinic and sanatorium features. It touched upon conditions predisposing to tuberculosis. There were models, maps, charts, pictures and lantern slides of clinics and various features of their work, of sanatoria, of bad, poor and good housing and hygienic conditions; also graphic descriptions of the Department's methods of prevention and treatment. This exhibit took first prize at the Panama-Pacific Exhibition some years ago. It toured every portion of Pennsylvania between 1908 and 1916. It was discontinued five years ago.

For ten years following the establishment of State Clinics, there was provided up to one quart of milk and three eggs daily to each needy or indigent tuberculous patient. Abuses of this aid and the need of funds to support other health work caused this feature to be dropped in 1917. Since then, when extra food has been needed for a particularly indigent patient, some philanthropic agency has provided it. Cotton seed oil was distributed free and continued until 1921. The report of results from this oil varied. There has not been any appreciable difference in the progress of patients resulting from its discontinuance.

PRESENT DIET.

Fifteen years ago, much stress was laid upon the value of milk and eggs in the diet of tuberculous patients. A patient receiving two quarts of milk and four to six raw eggs daily had his appetite and digestion disturbed from this large bulk of food. Today, it is aimed to build up the resistance of the tuberculous by rest in bed and improved nutrition resulting from a well balanced diet. Milk is given in quantity so long as it does not interfere with the appetite. Extra milk products are provided in the form of cheese, butter, ice cream, junket, cornstarch, creamed soups, etc., making an attractive diet. Eggs are used more frequently soft boiled, poached and coddled than raw. Eggs are rich in protein which substance is necessary for the rebuilding of body tissues, but meats, peas and beans help provide this substance much to the relief of the patient who is not enthusiastic over an egg diet.

When the Clinics and Mont Alto Sanatorium were first opened, practically all their patients were far advanced cases of tuberculosis, many of whom were incurable. Several years of hard work were required before suspected and early cases of tuberculosis were seen by doctors in the clinics. The Clinics undertook the examination and observation of children, who were either contacts with a known tuberculous member of their family, or whose physical condition suggested a search for tuberculosis foci.

The following Table shows the results of fight waged on tuberculosis:

PATIENTS EXAMINED AT STATE CHEST CLINICS.

YEAR	NEW TB. PATIENTS	TOTAL EXAMINED	DISP. VISITS
1907	435	452	
1908	8,690	9,801	
1909	16,356	19,190	
1910	11,352	14,996	140,814
1911	9,157	13,493	126,526
1912	9,105	13,541	131,048
1913	9,442	14,015	124,770
1914	11,106	16,411	139,688
1915	11,883	18,568	143,808
1916	10,138	16,245	116,669
1917	9,701	15,541	140,520
*1918	7,903	11,966	71,048
1919	8,867	15,158	70,056
1920	7,629	15,936	72,932
1921	5,669	17,706	71,696
1922	5,330	21,097	74,450
1923	4,281	17,941	65,767

P. S. These figures have been taken from the Monthly reports of the State Chest Clinics. During 1923 Clinics in Philadelphia and Pittsburgh were taken over by the City Health Departments, hence totals given above for 1923 do not include patients treated at those Clinics. Patients discharged from Clinics, but who reattended, are not counted as new patients. They are counted simply as return visits.

CONDITION OF TUBERCULOSIS PATIENTS ON DISCHARGE
FROM STATE CHEST CLINICS.

YEAR	IMPROVED	UNIM- PROVED	DIED	UN- STATED	TOTAL DIS- CHARGED
1920	4,379	2,641	1,314	86	8,420
1921	3,179	2,542	667	.....	6,388
1922	2,560	2,252	557	65	5,454
1923	2,784	2,153	563	452	5,952

NOTE:—Patients discharged from Clinics, but who reattended are not counted as new patients.

PATIENTS ADMITTED AND TREATED AT
PENNSYLVANIA STATE SANATORIA.

1912 to 1923 inclusive.

YEAR	ADMITTED PATIENTS	TREATED PATIENTS
1912	2,248	2,996
1913	3,048	4,001
1914	3,474	4,708
1915	3,903	5,662
1916	4,048	5,863
1917	3,984	6,076
1918	3,163	4,972
1919	3,763	5,087
1920	2,871	4,637
1921	3,054	4,600
1922	3,197	4,775
1923	2,664	4,406
Total,	39,417	57,783

* Milk and eggs no longer distributed by Clinics.

CONDITION OF PATIENTS ON DISCHARGE FROM STATE SANATORIA.

1921

Apparently cured	79
Arrested	306
Apparently arrested	317
Improved	1,138
Unimproved	837
Dead	346
Total discharged	3,023

1922

Apparently cured	27
Active	144
Quiescent	47
Arrested	224
Apparently arrested	238
Improved	1,344
Unimproved	771
Dead	237
Total discharged	3,032

1923

Apparently cured	10
Arrested	125
Apparently arrested	181
Quiescent	255
Active	342
Improved	1,151
Unimproved	562
Dead	251
Total discharged	2,877

THE MORTALITY RATES FOR THE LAST EIGHTEEN YEARS IN
PENNSYLVANIA: Rates per 100,000 of population.

Year	Tuberculosis all Forms	Tuberculosis of Lungs
1906	150.9	129.6
1907	148.7	127.9
1908	137.8	117.3
1909	133.9	115.1
1910	133.7	117.0
1911	135.9	118.3
1912	124.8	109.1
1913	122.3	101.1
1914	125.7	103.9
1915	127.2	106.6
1916	133.0	109.9
1917	138.7	119.9
1918	151.4	133.3
1919	119.3	103.6
1920	105.0	91.5
1921	91.6	78.9
1922	88.4	76.4
1923	85.5	74.7

The State has now three Sanatoria for the care and treatment of Pulmonary Tuberculosis. They are located at South Mountain (Mont Alto), Cresson and Hamburg. Mont Alto and Cresson provide preventorium care for children.

The South Mountain Institution is 1650 feet above sea level, located in the midst of a State Forest Reservation of 55,000 acres on

the South Mountain range in Franklin County. It is chiefly on the cottage plan, each cottage being set at such an angle as to receive sun throughout the day. Besides the Administration Building, the Amusement, Assembly and Recreational Halls, there is a large Infirmary and Dispensary and a three story Children's Building which can accommodate 150 children. The total capacity of this Sanatorium is 887 beds. This Institution admits only children and adults whose condition is suitable for camp treatment.

Cresson Sanatorium is located at Cresson, a short distance west of Altoona on the main line of the Pennsylvania Railroad. It has an elevation of 2500 feet above sea level, situated among the Allegheny ridges beyond the famous Horse Shoe Curve. It consists of a combination of cottages and ward buildings. It was opened January 1, 1913, and has a capacity of 700 beds. Adults are admitted in all stages of the disease.

The third Institution is situated at Hamburg, 27 miles north of Reading and was opened October 24, 1914. It is about 500 feet above sea level and is built on the ward unit plan. Its capacity is 450 beds. Adults are admitted in all stages of the disease and children with active tuberculosis.

These Institutions are huge plants having their own power, laundry, water and sewerage systems. Every facility is offered for the study and cure of tuberculosis. Each Sanatorium has competent and full medical and nursing staffs, nose and throat clinics, dental clinics, operating rooms, pathological laboratory, X-ray and fluroscope laboratories. Heliotherapy and pneumothorax treatments are given to suitable cases.

The State Sanatoria are limited to residents of the State and are free. Patients are admitted through the State Chest Clinics and Admission Centers.

TREATMENT.

Treatment in the Sanatoria consists of two parts: first, rest as nearly absolute as possible during the active stages of the disease; second, rest with graduated exercise up to full time employment of patient during the stage of arrestment. Patients during their stay in the sanatoria are trained to take care of themselves and their health. They are impressed that only right living and regular hours with sufficient rest will produce a cure after the arrest of their disease and discharge. The medical staff gives lectures of instruction and by daily supervision and example, patients are taught how to get well, how to keep well and how to protect others after leaving the sanatorium. Education along these lines is an essential part of the patient's treatment. These patients return to their homes and are kept under observation by the clinics. When full cooperation is given, they prove a living advertisement for the success of sanatorium treatment, when begun in the early stage of the disease and by word and action serve as an educational center to their friends and neighbors.

COUNTY SANATORIA.

Under an act of the Legislature of 1921, Counties were empowered to build and maintain County Tuberculosis Sanatoria after such

question had been submitted to the voters and carried by vote. Already counties are assuming the responsibility of caring for their own advanced and sick tuberculous people. The following counties have voted in favor of providing their own County Tuberculosis Sanatoria: Beaver, Berks, Cambria, Danphin, Delaware, Erie, Lackawanna, Luzerne, Mercer, Montgomery, Northampton, Schuylkill and Westmoreland.

Beaver, Berks and Lackawanna counties have their Sanatoria in operation, Lackawanna County is building an addition to its Institution, Cambria and Luzerne are completing plans for building.

PENNSYLVANIA'S SYSTEM.

When the State Health Department organized its fight against tuberculosis, it planned a uniform system that would offer the same service to all its counties. With the many unique and varied geographical, social, industrial, rural, urban and legislative features as had Pennsylvania in 1907, when the Department of Health took the field, the tuberculosis problem was so urgent and extensive that only a centralized and efficiently organized force, backed by State subsidies, could help meet this problem promptly and effectively throughout the Commonwealth. In those days the counties were not prepared to handle this big problem. There was no legislation empowering counties to raise funds for the support of such an effort.

We take this opportunity to thank Municipal and County officials, the County Anti-TB Societies, the Red Cross and other philanthropic organizations for their substantial assistance and help in the fight against TB which will be continued to the end.

PROGRAM.

The present program for the care of the tuberculous sick consists of two parts. First, a sufficient number of chest clinics, with nursing complement, to reach and educate the public and get active and suspected cases examined and treated, with emphasis on children with lowered resistance or latent tuberculosis. Second, sufficient sanatoria beds for the treatment of active tuberculosis and those, particularly children, who have been exposed to or may be suspected of having the infection. The program could never be fulfilled by the State acting alone or by local communities acting independently.—It can, and there is the promise of its attainment, by cooperation of these two forces.

Up to the latter part of 1921, the State paid rent, heat, light and all overhead expenses of its clinics. In the last two years the local communities joined with us and have defrayed the rent and practically all overhead expenses. This was a remarkable undertaking, as there were one hundred and ten active clinics. It was a practical demonstration of the part played by chest clinics in community health and welfare and an expression of local appreciation of their value and services. The State continues to furnish clinic equipment and supplies, all record forms and pays the clinic physicians a small remuneration. One or more State public health nurses are attached to each clinic.

AN EXAMPLE OF DENTAL PROGRAM IN HANOVER SCHOOLS.

By

MISS ETHEL MacKENZIE,

Health Nurse.

After trying to urge school children to have dental defects corrected, with but little success, it was decided that if some inducement could be given to gain the cooperation of the children, much more might be accomplished.

Accordingly the Parent Teachers' Association was appealed to; they were interested in health work and promised a picnic in the spring to every child who would bring a certificate signed by the dentist stating that all necessary dental work had been done.

Walnut Street School was the first to take up the plan, and as only four months of the school year remained, it was thought better to confine the work to that building. Printed forms were distributed to the children on which was a space for dental examination, and they were asked to visit their family dentist. After an examination, it was found that if work had been advised, in almost every case arrangements had been made to have it done.

The plan was successful from the beginning. In many homes instead of parents urging their children to go to a dentist, the children begged to be taken.

An Honor Roll was hung in the hall of the school on which the pupil's name was entered as soon as he brought in his certificate properly signed. A further incentive was given to the work, when the Parent Teachers' Association offered a prize of \$5.00 to the grade that would secure all their certificates first; the School Board offered a half holiday. It was won by Third Grade taught by Miss Maude Weikert, three months from the day the campaign began.

The school enrollment is 315. At the close of the school, 230 pupils had returned certificates, while 48 had work not quite completed, leaving 37 pupils chiefly in the primary grade, who did not visit a dentist.

The work done in these four months was 198 teeth extracted, 546 fillings put in, 56 children had teeth cleaned; and a few treatments. The success of the work has been due in a large measure to the interest of the teachers and the members of the Parent Teachers' Association.

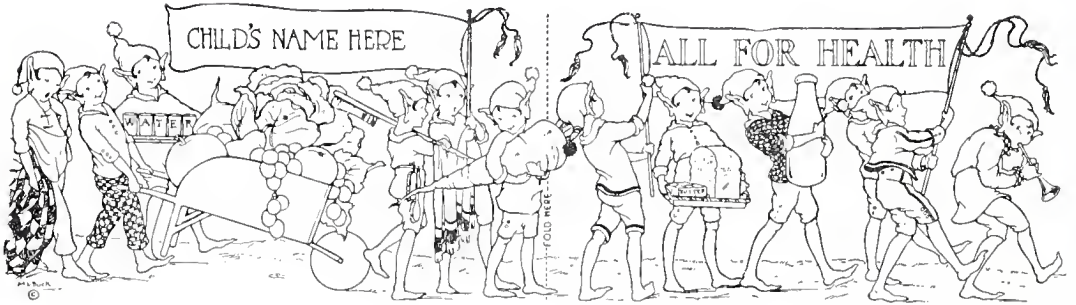
Even in the other schools the benefit from this has been noticed in a greater interest shown in the care of the teeth. When school opens again, we expect to put on a campaign that will include every child in the grade schools and hope in time to be able to report 100 percent perfect teeth.

THE FACISTI OF HEALTH.

By

FRANCES F. HOAG,

Philadelphia Inter-State Dairy Council.



Centuries ago the Romans learned that one small fagot had but little strength in itself, but that several fagots bound together were capable of a powerful resistance.

On this principle the various professions, in trying to meet the social problems of the day, have combined—fagot by fagot—until the doctors, nurses, social workers, educators and psychologists have formed such a facisti bound together by the common objective—HEALTH.

In this Facisti for health, the Dairy Council is one fagot—and as such it is my purpose to describe briefly its organization and activities. The National Dairy Council is an educational organization of which the Philadelphia Inter-State Dairy Council is a unit, operating in eastern Pennsylvania, New Jersey and Maryland. It is supported by the milk producers and milk distributors.

Our unit has three departments—Quality Control, Dramatic and Nutrition. The Quality Control Department, working on a cooperative basis, both at the farm and at the distribution plants, is doing everything possible to improve the quality of milk. The other departments of the Dairy Council operate only where there is a sufficient and available supply of safe milk. The Dramatic Department trains children in the production of the health plays. The Nutrition Department, with its staff of trained nutrition workers, presents health education in a great variety of ways.

As psychologists have said in the last analysis of human behavior, people do what they want to do—the purpose of the Dairy Council has been to devise ways and means based on sound educational methods for presenting the principles of health, so that the people will want to do those things that will contribute good health.

The Nutrition Staff functions largely as interpreters of the work of the research student and tries to reduce scientific knowledge to its lowest denominations, and specializes in methods of presentation.

By far the greatest majority of people whom we all wish to reach has very little knowledge or understanding of scientific terms. They do not understand nutrition in terms of proteins, carbohydrates, basal metabolism, or calories, but rather as vegetables, fruit, milk, etc. The task is to present to them sound facts in simple, entertaining and attractive form. Reduced to the simplest terms the daily requirement for adequate nutrition can be furnished by making the daily basis of the diet one quart of milk, or its equivalent in dairy products, green leafy vegetables and fruits. The background for this can easily be checked, for the most important food requirements needing emphasis are:

1. A good muscle builder.

Milk furnishes this.

2. Of the seventeen minerals required, a conscious effort must be made to supply three—calcium, phosphorus and iron.

Milk furnishes all the calcium with a margin of safety. It supplies 99% of the phosphorus and 14% of the iron.

Recent work on rickets tends to show that a balance between calcium and phosphorus is necessary for normal calcification. Milk supplies these minerals in balance.

Though low in iron, it is of excellent quality for, in the presence of a generous supply of calcium, iron is easily available.

3. Vitamins—A, B, C, and probably D.

Milk furnishes A and B—C is probably affected by pasteurizing, so we depend on the fruits for C and on the green leafy vegetables to furnish additional vitamins, minerals and bulk.

4. Bulk.

Supplies by fruits, vegetables and when possible, some coarse breads.

5. Fuel.

Not important enough to require special emphasis.

Green leafy vegetables, fruit and milk—simple nucleus as it is, is backed by sound scientific knowledge—the best that we know at the present moment. It is sustained by observation the world over that those people who have lived on such a diet, have obtained nearest to ideal health.

As Governor Pinchot referred to a future electrical era, so nutrition, as a science, is merely in the first flush of its dawning future. Already there is striking evidence of inter-relations between nutrition and disease; and between nutrition and physical and mental characteristics of man. There is a definite relation between diet and disease in the so-called deficiency diseases due to the lack of certain vitamins, and probably future research will establish more evidence. There is a recognized relation between the endocrine balance and food metabolism, this in turn affecting the individual in a countless number of ways.

The dental students are pointing out inter-relations, such as food metabolism and the endocrine balance, in the building of good teeth.

Dr. Taft, Neuro-psychiatrist of the Community Health Center of Philadelphia points to malnutrition as one of the factors controlling behavior problems and personal defects in children.

For the best results in Health Education, cooperation between all the fagots of the Health Facisti is necessary. The method of work of the Dairy Council, as it cooperates with the other organizations, can be qualified as follows:

Food Demonstrations:—For adult groups Food Demonstrations have always been successful. Often in the foreign groups many do not understand much English, but they are eager and interested and able to get the message, because they are familiar with the simple foods and can see, as well as hear, what is happening.

Some of the literature used with these demonstrations is a card known as "The Hang Me in the Kitchen."

The new cook book is attractively illustrated in colors.

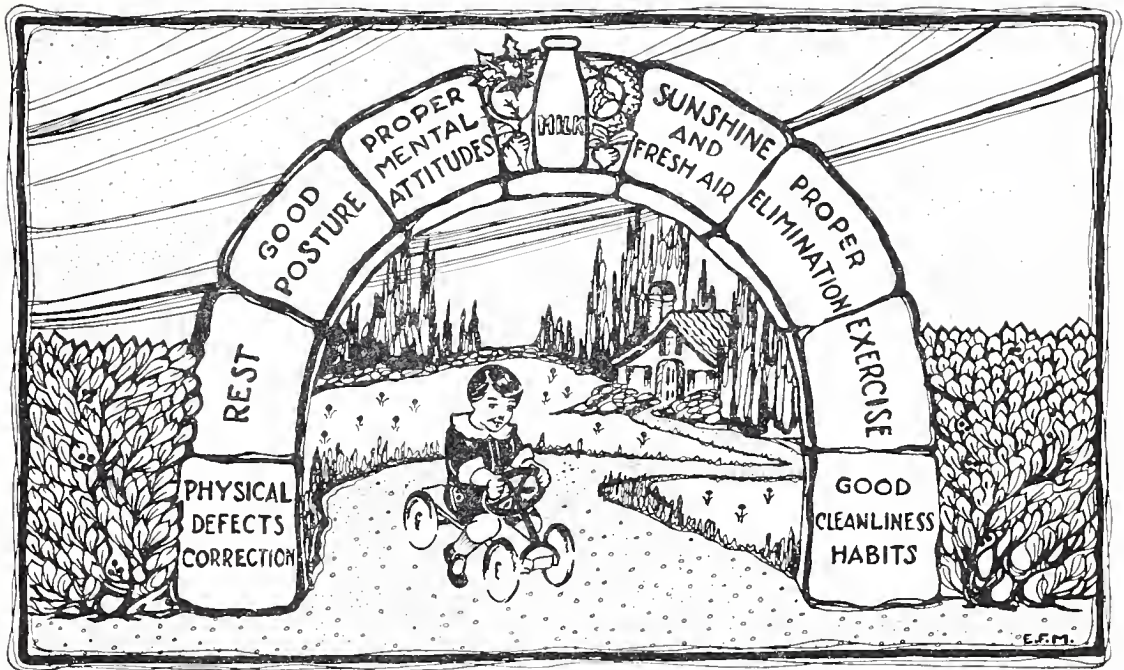
The pamphlet "A Quart a Day for Your Health" gives a number of simple recipes.

Supper Clubs—Rather an unique method of giving the industrial girls a course in food and nutrition. Illustrated.

Illustrated Lectures, Talks and Stories—Lantern slides, movies and illustrated stories are much used.

Preschool Work—Dr. Noble has left no doubt in our minds as to the need for work with the little preschool child.

Cooperating with the Red Cross, we are trying to experiment enrollment clinics to prepare the child for beginning school in fall. Cards illustrated with the health arch are sent out to mothers of prospective beginners with a simple message—"Start your Child on the Road to Success through the Arch of Health." Give him the advantage of a physical examination, thus avoiding the loss of school time. The Red Cross clinics will be open all summer for that purpose, or the child can be taken to his own physician.

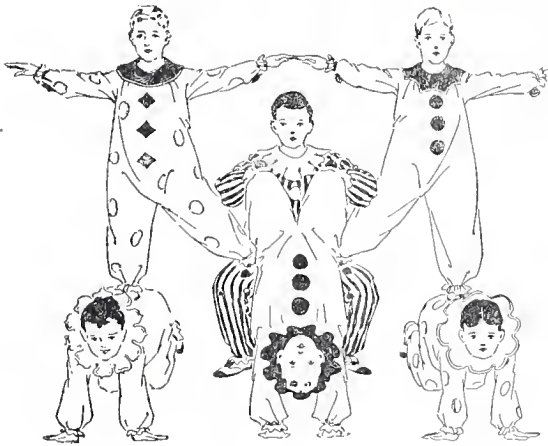


School Work—The Health Work with the children is based largely on the eight health rules. Health Habits is a series of lessons in the form of stories, games, and follow up devices that utilize largely the play instinct in children.

Nutrition Classes—Nutrition Classes, as pioneer work in developing Health Education, have demonstrated the value of this type of teaching for children. Results tend to point to the period from September to Christmas as the most satisfactory time for nutrition classes with a definite scheme for camp in the summer for those most needing it.

A child makes $\frac{2}{3}$ of his expected gain from June to January, so a nurse conducting classes from January to June, working against this hazzard, does not have the benefit of recorded results, which are not manifested until the next January. One girl, 19% underweight in the fall gained 15 lbs. and $2\frac{1}{2}$ " in height, but is still 12% underweight, because of this increase in height, while one boy, 13% underweight gained but 2 lbs. and nothing in height, but is estimated now as only 12% underweight. The girl is now in good condition, while the little boy is easily recognized as in poor condition.

Plays—You have already seen the "Six Year Molars," one of our short plays. These little plays are easily put on with a minimum of rehearsals. The purpose is educational rather than to give a perfect performance, though, when the children are trained under one of our Dairy Council dramatic workers, the performances are always worthy of assembly presentation.



The Health Circus is one of our most recent and successful presentations. It is more elaborate and does require more training than the simple short play. It is principally for Junior High School Boys.

I hope in this brief time, I have been able to give you some idea of the Dairy Council and its work.

Robert Ingersoll once said: "That if he had had control of the universe, he would have made Health and not disease contagious."

As a fagot in the Facisti for health, the Dairy Council is helping to do just that.

TUBERCULOSIS WORK AMONG CIVIC ORGANIZATIONS.*

By

ARTHUR M. DEWEES, Secretary,
Pennsylvania Tuberculosis Society.

At first thought, it may seem rather presumptuous for a mere layman to talk about tuberculosis work to an audience composed of professional health people, but I believe it is recognized quite generally now that there is a very definite place for the lay and volunteer worker in the tuberculosis side of public health. The task of controlling and preventing tuberculosis is very largely a social and economic problem. Leaders in public health work themselves are almost unanimous in the opinion that there is great need and opportunity for non-official agencies to help the official health workers in the fight against tuberculosis. In fact much credit is given to the volunteer agencies for the success in bringing down the tuberculosis death rate in this country and in our own State.

The volunteer tuberculosis organization is a citizen agency. Its job is to educate the public regarding tuberculosis and to assist the

* Extract of Address given at Camp of Instruction.

official health workers in their activities in handling the disease. You doctors and nurses have the direct and official responsibility for solving the tuberculosis problem, but you cannot be successful unless the people of Pennsylvania are with you. The volunteer organization can and will help you to secure the co-operation of the people generally in tuberculosis prevention measures.

It is a fact that there was organized volunteer interest in the prevention of tuberculosis in Pennsylvania long before the State did anything officially to check the disease. The organization which I represent, The Pennsylvania Tuberculosis Society, was formed in 1892, not many years after Koch's discovery. This Society was the first tuberculosis organization in the world. It was established by a small group of Philadelphia physicians. At first the Society did only a very limited educational work. Its funds were scant and its work was done by the members. But even in those early years of its history the Society did an important work in arousing public interest to the menace of tuberculosis and in educating people regarding methods and possibilities for the control and prevention of the disease. Your own Dr. Dixon was a member of the Board of Directors of the Society previous to his appointment as first Commissioner of the Pennsylvania Department of Health.

Great impetus was given to the Pennsylvania Society and its work when the Christmas Seal method of raising funds was adopted in 1908 by the National Tuberculosis Association. In the years since that time the Society has gradually grown in strength and, I believe, in usefulness. One of its main activities has been the organization of local groups for tuberculosis prevention work. There is now at least an attempt in the way of a volunteer tuberculosis organization in every county in Pennsylvania. All these organizations are trying to do their part in the big task of lifting the burden of tuberculosis from the people of Pennsylvania. They all want to do good and effective work. They want to be of real service to you official people. Where they are not as helpful as they might be or as you think they should be, it is not because of any unwillingness; rather it is because of lack of knowledge and experience. You can help the volunteer tuberculosis organizations to be more serviceable by working with them in good spirit.

In closing my remarks I would say that the Pennsylvania Tuberculosis Society and its one hundred or more affiliated committees and organizations constitute a powerful force for good in the tuberculosis work of our State. Hundreds of devoted men and women are enlisted in the fight. They are raising hundreds of thousands of dollars each year for the work—in 1923 the amount secured through the Christmas Seal sale was close to \$350,000. It is a serious responsibility to spend this money economically and effectively. But that is what we are trying to do. The burden of tuberculosis upon Pennsylvania is enormous, both from the point of view of lives lost and of social and economic waste, but if we will all work together, the official and volunteer forces, we can lift the burden. I am sure this is what we are going to do.

QUARANTINE OF PNEUMONIA.

By

DR. CAREY J. VAUX, Director,

Pittsburgh Department of Public Health.

Pneumonias (all forms) became reportable and quarantinable diseases in the City of Pittsburgh on April 1, 1924.

An experience of one month is entirely too short a period on which to base any thought of the ultimate result of this step in Pneumonia Quarantine, but—considering that it is a radical departure from the accepted custom in public health work, insofar as Pneumonia is concerned, and that of the three primary benefits hoped for as a result of this Pneumonia Quarantine, one is demonstrable of improvement in this short period—it is thought well to record at this time our experience with Pneumonia Quarantine for its first month of trial.

In inaugurating Pneumonia (all forms) Quarantine in the City of Pittsburgh, the thought in mind has been improvement in the Pneumonia situation through three principal factors:

1. (a) To prevent the spread by direct contact through isolation of the patient, if the Pneumonia is a primary condition; or
(b) prevent the spread by direct contact (where the Pneumonia is not primary) of the primary infectious condition which was responsible for the existing Pneumonia, such as: Influenza or Common Cold. This situation is already cared for through quarantine in Pneumonia complicating primary quarantinable diseases, such as, Whooping Cough and Measles.
2. Public health education of the general public regarding:
 - (a) Protection against Pneumonia by avoiding any contact with an existing case;
 - (b) Protection against Common Cold or Influenza (which frequently lead to a complicating Pneumonia) by avoiding contact with a person suffering with a Pneumonia complicating either of these primary infectious conditions;
 - (c) The seriousness of neglect of proper care when infected by Influenza or Common Colds because of the frequency of a complicating Pneumonia.
3. (a) To obtain reliable statistics regarding the incidence of Pneumonia (all forms) through proper and complete reporting of cases, and
(b) Opportunity for environmental and other cause studies in all cases of Pneumonia occurring in the City of Pittsburgh.

That Pneumonia (whether primary or secondary to Common Cold or Influenza) is a communicable condition, is hardly a debatable question today. The following excerpts from two recent works on preventive medicine, by very competent workers in public health, seems to express the present day attitude of the medical profession:

“Preventive Medicine and Hygiene, 1922—Dr. Milton J. Rosenau.

Lobar Pneumonia is a communicable disease which should be classified with the infectious fevers. If Pneumonia were a new disease, it would be regarded as 'contagious,' and its spread would be guarded against by isolation."

"Epidemiology and Public Health, Vol. 1, 1922—Dr. Victor C. Vaughan.

All students of epidemiology recognize that the Pneumonias are infectious diseases, and they are disseminated by spitting, sneezing and coughing. If every physician—and other attendant on the sick—exercised well known precautions and did not carry infection from one patient to another, or permit such infection to be carried, the mortality from Pneumonia would be greatly reduced."

From a public health point of view, it really makes little difference whether or not a given case of Pneumonia is primary or secondary, inasfar as isolation is concerned; if it be primary, it is a result of infection by a virulent organism, and should be guarded against by isolation; if it be secondary to a Common Cold or Influenza, either the directly offending organism responsible—or those causing the original primary infectious condition—have proven, by the development of Pneumonia, their virulency, and should be guarded against by isolation. Theoretically, isolation of all cases of Common Cold and Influenza would materially reduce the incidence of Pneumonia; this is of course impractical—if not quite impossible.

A study made by the Department of Public Health of the history of contact in households or by friends or relatives in a number of cases (where multiple deaths from Pneumonia occurred recently) reveals some very interesting and instructive information. Whether or not these cases of Pneumonia were primary or secondary to Influenza or Common Cold is not stressed, and, really, for the purpose of drawing attention to the need of isolation and the necessity of citizens keeping away from Pneumonia cases, this point is not essential. Just a few are here given to illustrate the situation.

Case No. 1. Mrs. P. B. died March 17, 1924 of Pneumonia. Mrs. Mary A. W. died March 22, 1924 of Pneumonia; she was a sister of and assisted in nursing Mrs. P. B. for 4 or 5 days before developing the disease herself. Mrs. M. R. died of Pneumonia March 23, 1924; she was a practical nurse engaged to nurse Mrs. P. B. and became ill of Pneumonia while nursing the case.

Case No. 2. Mrs. E. S. S. died March 31, 1924 of Pneumonia. Mrs. S. C. died April 6, 1924 of Pneumonia; she was a sister of Mrs. E. S. S., living in the same house, and insisted on kissing her sister frequently during her illness, notwithstanding repeated warnings by the trained nurses employed.

Case No. 3. Miss R. P. died March 24, 1924 of Pneumonia. Mrs. A. P. died March 24, 1924 of Pneumonia; was mother of Miss R. P. and in close personal contact. Mrs. A. D. died April 4, 1924 of Pneumonia; was sister of Mrs. A. P. and visited frequently at home during illness of Miss R. P. and Mrs. A. P.

Case No. 4. Mrs. M. L. E. died March 18, 1924 of Pneumonia. Mrs. H. L. P. died March 29, 1924 of Pneumonia; was a sister of Mrs. M. L. E., lived in the same house and nursed her sister during part of her illness.

Case No. 5. Mr. A. M. V. died March 31, 1924 of Pneumonia.

Mr. R. C. G. " April 1, 1924 " "

Mrs. H. S. " March 31, 1924 " "

Mr. R. " April 9, 1924 " "

Mrs. J. S. and Mrs. S. S. seriously ill of acute chest conditions, diagnosed as acute Bronchitis. All of the above were guests of a small family hotel in which there are practically no transient guests, and considerable personal contact between guests.

The third factor prompting Pneumonia Quarantine, namely: "to obtain reliable statistics regarding the incidence of Pneumonia (all forms) with opportunity for environmental and other cause studies," has been demonstrated by one month of trial to have produced good results, as indicated by the following tabulation:

FIVE YEAR TABULATION: PNEUMONIA REPORTS—PITTSBURGH, PA.

Under the State Laws of Pennsylvania, LOBAR PNEUMONIA has been a reportable disease for many years. On April 1, 1924, PNEUMONIA (all forms) became reportable and quarantinable diseases in the City of Pittsburgh, Pa.

	Lobar	Broncho
Month of April 1920	74	
Month of April 1921	123	
Month of April 1922	74	
Month of April 1923	83	
Month of April 1924	416	193
Total	609	

During April 1924, Pneumonia cases treated in Hospitals:—

Residents	94	40
Non-residents	21	10
Total	165	115 50

During April 1924, Pneumonia cases treated in Homes:—

Total	444	301	143
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5 percent of Total Cases Non-residents; 20 percent Hospital Cases Non-residents.

76¾ percent of Cases of Citizens Treated at Home.

23¼ percent of Cases of Citizens Treated in Hospitals.

FIVE YEAR TABULATION: PNEUMONIA DEATHS—PITTSBURGH, PA.

	Total	Lobar	Broncho
April 1920	190	104	86
April 1921	209	143	66
April 1922	141	76	65
April 1923	175	110	65
April 1924	250	186	64

Case mortality percentage for April 1924: 41½ percent.

NURSES' PNEUMONIA CHECK-UP—APRIL 1924.

Interview in all cases of Pneumonia Quarantine during April 1924; information received by Department of Public Health nurses from members of family.

	Lobar	Broncho
No History Preceding Illness	156	
History of Preceding Illness (such as: Common Cold, Bronchitis, Influenza)	126	93
History of Preceding Illness (such as: Measles, Whooping Cough, Senility)		50
Hospital Cases—No History	115	50
Coroner Cases—No History	19	

Total Pneumonia Cases:609

The above tabulations, being self explanatory, are submitted without comment, except that the great difference in case reporting of Lobar Pneumonia, we believe, does not represent that proportion of increase in incidence of the disease for April 1924, as compared to like period for the preceding four years, although we believe there was some increase; it does represent, however, more complete reporting of cases. A check-up of the 250 Pneumonia death certificates for April 1924 shows but 15 cases that had not been properly reported as Pneumonia cases prior to death.

It is the opinion of the Director of the Department of Public Health that there are very practical and valid reasons why reports have been—and will continue to be—incomplete, when the regulations limit the reporting to Lobar Pneumonia and no quarantine is inaugurated; whereas, these reasons are completely eliminated when Pneumonias (all forms) are both reportable and quarantinable.

One month of trial in Pneumonia (all forms) reportable and quarantinable in the City of Pittsburgh has demonstrated a very favorable public reaction to this preventive measure. We can find practically no opposition whatever from any source: The medical profession is unanimously favorable; this is also true of the Hospitals and welfare organizations which have to do with health measures; the daily newspapers have been favorable, which has been of very great assistance in the public education regarding this situation; and, notwithstanding the fact that we checked up through our nurses, through agents of four large insurance companies (who very materially assisted us through the distribution of 110,000 Pneumonia circulars to their policy holders), and also through all other sources from which we could obtain information, we could find practically no opposition whatever from the general public to Pneumonia Quarantine. But, on the other hand, the statement was made many times that the citizens were very much in favor of this quarantine, and wondered it had not been done years ago.

BEAVER COUNTY'S NEW TUBERCULOSIS SANATORIUM.

By

MISS EDITH STUCKEY, Secretary,

Beaver County Tuberculosis Association.

In accordance with the Act of 1921 permitting the residents of a County to vote on the question of establishing a tuberculosis hospital, Beaver County held a referendum vote which, by a pronounced majority, placed it on record among the earliest Counties of Pennsylvania which wished to establish an independent tuberculosis hospital.

The responsible officials of the County interpreted the vote of the people at its face value and, with reasonable promptness, proceeded to the direction of a tuberculosis sanatorium.

The formal opening of the Beaver County Tuberculosis Sanatorium on June 4th marks an important step in the progress of the Tuberculosis Campaign in Pennsylvania. For the Sanatorium, a farm containing 48 acres was bought one mile from Monaca. It is located on the southeastern slope of a hill outside the river fog belt. Monaca is located in the central part of the County. The property included a house and barns.

The property cost \$15,000. About \$135,000 has been spent on new buildings and other improvements.

The original building was converted into a kitchen, staff dining room and nurses' quarters. The new building is of brick construction, 282 feet long and 56 feet deep. This structure is connected with the original building by a 50-foot covered corridor which is the ambulance entrance. In the center of the building at the end of the corridor are doctors' and head nurses' offices, visitors' reception room and patients' reception room. The nurse's station at the end of each wing is so arranged that she has a view of the ward and corridor. Each room is equipped with electric call system and wired for electrical apparatus.

The buildings are substantial but simple in construction. The wards and single rooms have a delightful outlook in every direction. Every reasonable provision has been made for comfort without indulging in extravagance. The Sanatorium has its own water plant, ice plant, sewerage disposal, laundry, X-ray and laboratory.

The new Sanatorium—the Beaver County people do not think or speak of it as a hospital—was opened for patients five months before its formal opening. It was largely due to the vision and the enthusiastic and informed interest taken in the project by Dr. Fred B. Wilson, of Beaver, that the Institution is planned and equipped to give patients every possible advantage in "Taking the cure" or the best of care until they die, if their cases are hopeless.



BEAVER COUNTY TUBERCULOSIS HOSPITAL.

TYPHOID FEVER IN SPRING TOWNSHIP, CENTER COUNTY.

By

DR. E. S. EVERHART, Associate Director,

Bureau of Communicable Diseases.

L. D. MATTER, District Engineer,

Bureau of Engineering.

About April 1st Mr. X., residing in Coleville, Center County, was taken sick. He was confined to bed there over one month with a disease which had its predominant symptoms, headache at the onset, weakness, fever and periods of alternate diarrhea and constipation. No Widal test or examination of feces or other laboratory tests were made.

At the rear of the property occupied by this man, there is a so-called "dry weather" stream which passes through the entire village, receiving drainage therefrom and empties into Buffalo Run (see map). Buffalo Run flows eastward, passes to the rear of Collins Row and empties into Spring Creek at Bellefonte.

Numerous privies within the limits of Coleville were so situated that their contents could gain access to the above mentioned dry run. This condition existed on the X property and it is quite likely that the contents of the X privy eventually reached Buffalo Run by way of the "dry weather" stream.

Within the past two years a water company has been organized in Coleville for the purpose of supplying that community with water which is obtained from the municipal supply of Bellefonte. Owing to the comparatively excessive rates charged for making connections to this system, many people in Coleville did not take advantage of this opportunity to secure a safe water and continued to obtain water from springs in the neighborhood. One of these springs is located just below the village along Buffalo Run, below the point where the "dry weather" stream enters. This spring is not protected in any way from surface drainage and is subject at all times to overflow from Buffalo Run.

In the X family there were on May 11th two cases of typhoid fever and in another family there was one case. Both families used water from the above mentioned spring.

Collins Row, which is located on Buffalo Run, one-half mile east of Coleville, consists of eight double houses of frame construction, placed in two rows. These houses are owned by the American Lime and Stone Company and are occupied by employes of that Company. These houses are continuous to the quarries and mill of the above Company.

Until recently, the water supply used in these houses was obtained from a spring located on the opposite side of Buffalo Run. This spring arises in limestone formation and appears to have furnished

sufficient water for the needs of the residents of the Row. The water was piped from the spring by means of a two inch line to the north-west corner of the group of buildings where it was permitted to flow into an underground concrete tank, which had a capacity of approximately 1500 gallons. This tank was provided with a wooden cover over which was placed a large piece of sheet iron, which was in turn covered with earth.

The pipe line connecting the spring with the tank passes under the creek. Furthermore, the elevation of the spring is such that at times of high water in the creek it is subject to overflow. In the case of a break in the pipe line beneath the creek, it is therefore possible that at time of high water that creek water could gain access to the pipe and be supplied to the tenants. Inasmuch as the pipe has been under the creek for a long period of years, during which course of time it was broken and later repaired by unskilled workmen, it is quite likely that during recent years, creek water actually reached the tank.

From this tank there extended two—two inch lines, one to each of the two rows of houses. At each pair of houses there was placed a hand-pump, by means of which the water was procured from the tank. A third pipe was extended from the tank which terminated in a hydrant which was left running at all times. This hydrant was located near the tank and was more popular than the pumps, for the reason that the water was cold at all times, and it is quite likely that more water was obtained at this point than through the aforementioned pumps.

Some time ago one case of typhoid fever was found to exist in the Row and an investigation of the water supply indicated that the water was contaminated and the Company was instructed to abandon this supply and secure another for their tenants. The main pipe line leading to the reservoir was cut at that time, but failure of the Company to pipe another water supply to the tenants, with the result that the latter had to walk several hundred yards for their water, the tenants repaired the old water system and were using it at the time of the present outbreak.

Collins Row bears a close resemblance to the usual dwellings found in industrial towns occupied by foreign labor. The rent received from each tenant is \$6.00 per month. The prevalent method of sewage disposal is by means of privy vaults and cesspools, which method appears to be satisfactory, due no doubt to limestone formation upon which the houses are built. Parenthetically, the new superintendent of the Company earnestly desires to put the dwelling houses of his employes in a thoroughly sanitary condition. Immediately upon the outbreak of typhoid fever, he followed every suggestion made by the County Medical Director, Dr. J. S. Siebert, and lost no time in destroying the existing water supply system and connecting the houses with the Bellefonte supply.

Of the fourteen patients from Collins Row in the hospital, eleven were below the age of seventeen years and five below the age of twelve

years, the youngest being two and one-half years of age. Immediately upon the establishment of the diagnosis, Dr. Siebert and the attending physician arranged for the patients to be entered in the hospital.

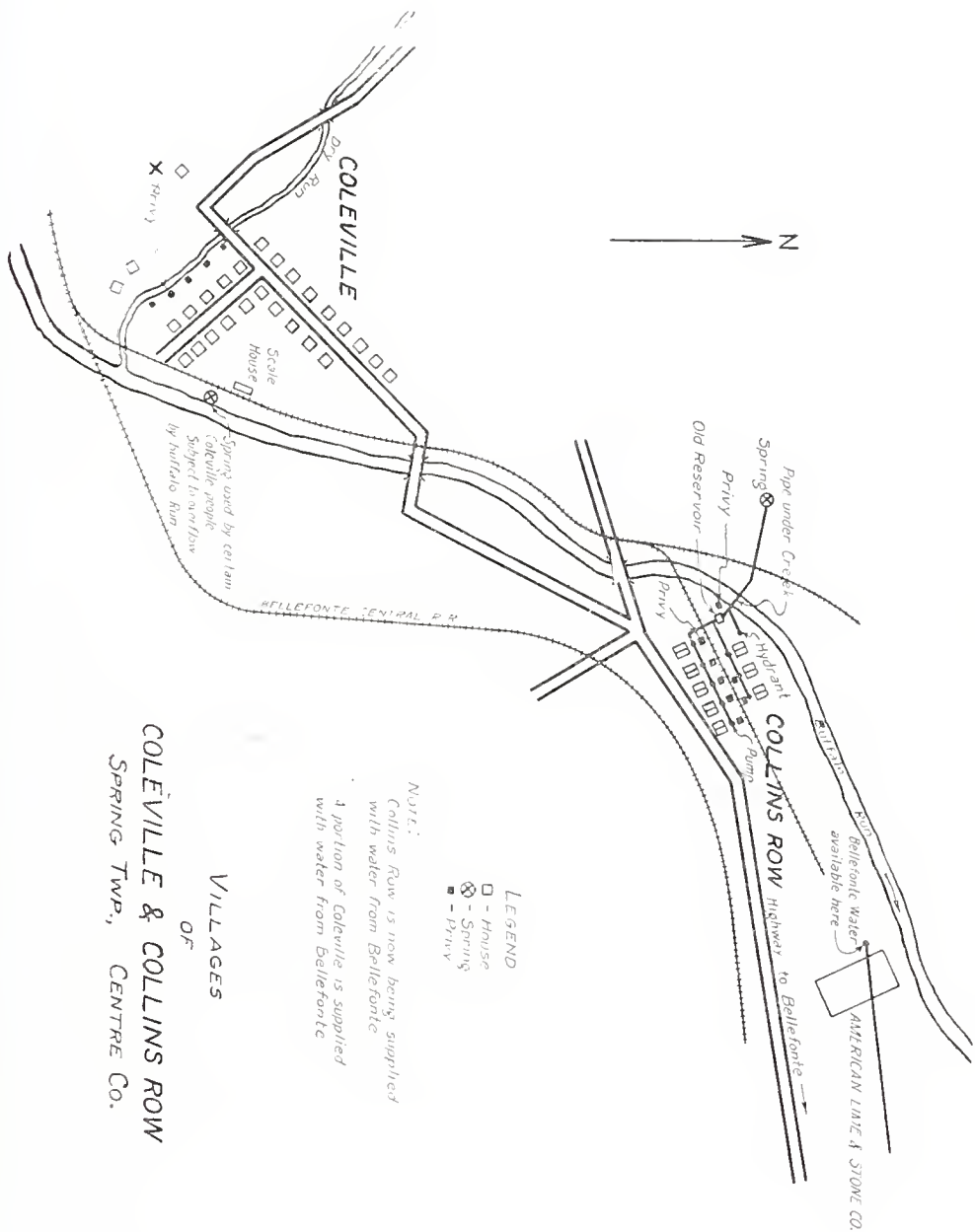
The positive Widal test and examination of feces in the case of Mr. X, whose sickness began about April 1st, established the fact that he had a genuine case of typhoid fever.

The milk supply of all typhoid cases in Spring Township was mainly from the dairy of the distributor, who furnished pasteurized milk to a great part of the borough of Bellefonte. In a few instances canned milk was made use of. Butter was purchased promiscuously in Bellefonte.

As a result of this outbreak and the present investigation, the following permanent steps have been taken to eliminate conditions which might be the source of a future outbreak. In the first place steps have been taken to make a general clean-up of conditions in Coleville, special attention being paid to conditions in the vicinity of the "dry weather" run. The spring at Coleville, located along Buffalo Run and used by the X family, has been posted and negotiations have been undertaken with the owners of the spring to have the same completely destroyed. The old water supply system at Collins Row has been destroyed and a water supply of known safety has been supplied instead.

At the request of the superintendent of the American Lime and Stone Company, instructions are being sent him to make a clean-up of conditions at Collins Row. From his conversation at the time of the investigation, we are led to believe that he will follow our instructions to the letter.

The County Medical Director, Dr. J. S. Siebert, deserves commendation for the efficient way in which he handled the present outbreak, not only from his action in arranging that the majority of the patients be taken to the Bellefonte Hospital, but by the quick steps he took to eliminate an unsatisfactory water supply and to secure a satisfactory one.



INSTRUCTIONS TO HEALTH OFFICERS ON TYPHOID FEVER CONTROL.

By

DR. J. MOORE CAMPBELL, Director,

Bureau of Communicable Diseases.

For the purpose of locating and eliminating sources of typhoid fever infection and securing better and earlier cooperation of the central offices toward this end, all health officers will carefully note and carry out the following instructions:

A census must be made for every case at the time it is placarded.

Information concerning the case must be telegraphed (*day letter*), collect, to the Bureau of Communicable Diseases at Harrisburg. This day letter shall state the name and location (P. O. address) of the patient. If the patient is not a member of the family, then give the householder's name, also. These questions must then be answered:

Date of onset.

Probable source of infection—water, milk, carrier.

Is suspected source of infection at patient's home, or in his neighborhood or beyond his usual excursions—that is, is it local or remote?

What are the sanitary conditions at the place?

To properly answer this question you will make a close inspection of all wells or springs used by the household, noting proximity to privies or cesspools, whether protected from surface contamination and whether from slope or ground, or other reasons pollution from the surface was possible. Construction and condition of privies—whether open to flies, full or overflowing—whether cesspools are overflowing. Manner of disposal of kitchen wastes—whether creating nuisances. These points having been determined, you will be in position to rate sanitary conditions as good, fair, poor or bad.

Is the case on a dairy farm?

How many water outfits desired to sample water supplies?

How many other cases or suspected cases in the neighborhood?

In telegraphing facts of the case to the Department, the questions you are answering must not be repeated in the message—only the answers are to be given but every question must be answered and in the order set down in this circular; otherwise, the central office cannot apply your answers to the proper questions.

Example:—Typhoid fever is reported in James Sample, Nantucket, R. F. D. No. 3, date of onset July 3rd. After your investigation you suspect that a spring in his meadow, overflowed by high creek water, was the source of his infection. This is a local or on-the-place source of his infection—not remote as a spring from

which he drank while on an automobile trip. It is not a dairy farm. The privy is dilapidated and full, on a hill sloping toward the well which is tightly walled up one foot above the ground and covered with well-fitting planking. You want to have this well water examined and will need one bottle for that purpose. There would be no necessity for examining the spring, known from its location alone to be a dangerous water supply. The bad location of the well and the condition of the privy make the sanitary conditions at the place poor. There are no other cases in the neighborhood.

Your telegraphic report of this case would then read thus:

Nantucket, July 20, 1924.

Bureau of Communicable Diseases,
Department of Health,
Harrisburg, Penna.

James Sample, Nantucket, R. F. D. No. 3. July third.

Water. Local. Poor. No. One. None.

Harvey Jones.

Health officers are reminded that telegrams can be sent by calling on the telephone the nearest telegraph station and giving the operator the message over the telephone. Whenever it may so happen that telegraphic facilities are not available or a telephone with which to communicate with the telegraph office, the health officer shall make an immediate report in writing, this report to cover all the questions set forth in this circular. As a matter of convenience in referring to the questions to be answered and the order in which they come, they have been separately multigraphed on the enclosed card. Carry this card with you and refer to it while making inspections on the typhoid premises, in order that no item may be overlooked and refer to it again when sending your report, so that there may be no question as to the accuracy of your answers and their positions in the message.

These instructions are to be put into effect immediately upon receipt of this notice.

DEPARTMENT NOTES.

Secretary of Health Charles H. Miner announces the transfer of Dr. J. D. Donnelly to Chief of the Field Service in the Bureau of Child Health in the State Department of Health, effective August 1, 1924.

Doctor Donnelly has been Chief of Clinics of the Tuberculosis Section of the Bureau of Communicable Diseases.

Mr. Howard Haines is Acting Chief of the Bureau of Restaurant Hygiene during the absence of Mr. Delaney, on account of illness.

Dr. Alla Nekrassova has been appointed to do full time work in the supervision of the midwives of the four Counties, Cambria, Schuylkill, Lackawanna and Luzerne. Dr. Nekrassova is a Russian and speaks several languages besides English; she has been in the

United States for eight years and is a naturalized citizen. She formerly worked in Philadelphia, conducting Baby Centers and prenatal work.

Miss Ellen Harris has been appointed stenographer in the Pre-school Division.

Dr. Thos. F. Jackson of Oak Lane, Philadelphia, has been appointed County Medical Director of Bucks County.

Dr. Jackson was formerly Assistant to the Commissioner of Health.

Dr. Edgar T. Shields of New Rochelle, New York, has been appointed Chief of Clinics of the Tuberculosis Section of the Bureau of Communicable Diseases.

Dr. Shields has been for the past three years Medical Field Secretary of the National Tuberculosis Association in New York City.

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Deputy Secretary of Health
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ISSUED MONTHLY

By The Pennsylvania Department of Health

VOL. II.

SEPTEMBER, 1924

No. 18

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*'Tis education forms the common mind,
Just as the twig is bent, the tree's inclined.*

Pope - Moral Essays. Ex. 1.

The Listening Post

A MONTHLY JOURNAL OF PUBLIC HEALTH

EDITOR

Wm. C. Miller, M. D.

Address communications to The Listening Post,

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Harrisburg, Pennsylvania.

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"Acceptance for mailing at special rate of postage provided for in section 1103, Act of October 3, 1917, authorized April 6, 1923."

WHAT? AGAIN!

Of course we are going to talk about it some more, and why not?

Did you have your Health Examination since the last "Listening Post" came out?

If you did, you won't care what we say, if you didn't—you need more talking to. If you are a leader in Health work and most of the readers of the "Listening Post" are—you are derelict of your duty, if you don't set yourself up as an example.

Now why didn't you have a health examination?

There are just about three reasons: you are negligent—you are afraid, or you are a "tight-wad."

Negligence doesn't pay, whether it be in business—in love or war and particularly in matters pertaining to health.

You may buy a new body for your automobile if you have enough money, but you can't buy a new body for yourself, if you have all the money in the world.

Are you afraid the Doctor will find there is something the matter with you? Take another think. The examination may reveal it, but it was there before the examination. You may get well if you find it out; you will surely get worse if you don't. Get examined. You have everything to gain and nothing to lose.

If you happen to be a "tight-wad" and unwilling to pay the modest fee required for such service, we have neither answer nor argument, except we have heard somewhere that it is generally conceded, no one has ever yet been known to carry into the beyond any real or personal property.

Come along! Have your Health Examination now and send a card to the "Listening Post" telling us of it. We don't want to know the findings—just that you have had it, and if you want to help the cause along, put "70+" on the backs of your letters.

W. C. M.

PUBLIC HEALTH EDUCATION

By

DR. WILLIAM C. MILLER, Director,
Bureau of Public Health Education.

"James, how often have you been told to remove the spoon before you drink your cocoa?"

James was ten years of age. He had been told this many times before—he was reminded of it many times afterward.

Fifteen years later James, a young business man was dining in a popular Café. Dulcinea, leaning forward, softly said:—"Jim, of course you know better, but I don't like to see you drink coffee with the spoon in the cup." James blushed as he removed the spoon—he never did it again.

It is hard to teach an old dog new tricks, yet it is possible. It depends somewhat on the dog, but rather more upon the ability of the Trainer to make the proper impression upon him, but there are two important things to remember; however simple the trick may appear to you, it is entirely new to the dog and you must be patient—second, you must not expect him to learn more than one trick at a time.

A teacher in the great school of Public Health Education has for pupils, children varying in age from one to ninety. His success depends upon his ability to make the proper impression. Children are naturally more impressionable than adults and the problems, as related to this class, would appear to be comparatively easy, however, as Public Health Education is measured by results, the program as regards children must be sufficiently impressive to be lasting.

A story is told of a promoter, who sought the influence of a very wealthy English Lord to support the building of a telegraph line from the southern part of England to the northern part of Scotland. The promoter discovered that His Lordship was more interested in dogs and horses than in poles and wires and rights of way. In desperation he said:—"My Lord, can you imagine a dog so large that his hind feet would stand at the lower edge of England and his front feet upon the northern border of Scotland?"

"What a wonderful dog that would be," said His Lordship, "A wonderful dog indeed."

"That, said the promoter, is exactly what we are after. We want to pinch his tail in England and make him bark in Scotland."

This unique presentation brought His Lordship to the realization of the possibility of the scheme, enlisted his aid and assured the success of the project.

A leaden spoon drawn through the water will not excite even curiosity among the finny population—paint it a brilliant color and troll it after the boat; every pickerel in the lake will want it.

There are many methods of promulgating the principles of Public Health, but regardless of the means, there are three essentials without which all efforts will fail:

1. Attract attention.
2. Arouse interest.
3. Achieve results.

In order to attract attention it is usually necessary to depart from the commonplace—the moon and stars are wonderful and awe inspiring, yet we ride through the summer night and scarcely give them a passing thought. A fire balloon is out of the ordinary and our eyes follow its flight until it is no longer visible.

Showmen learned long ago this phase of human psychology and decorated the barns and bill-boards with flaming posters—and thus accomplished the first requirement of successful Publicity.

The detail of the scantily clad lady jumping through the blazing hoop or nonchalantly inserting her head between the slaving jaws of an African lion; of the bespangled acrobat risking his life on the flying trapeze; of the reckless dare-devil being shot from the mouth of a cannon, and other blood curdling, hair-raising performances, usually aroused sufficient interest to result in the fulfillment of the third proposition, which meant a crowded tent for each performance.

The usual methods employed in educating the public in regard to Health are (and they are given in the order of their importance, based upon the experience and observation of the writer):

- Untitled motion pictures accompanied by lecture.
- Titled motion pictures without lecture.
- Lantern slides accompanied by lecture.
- Didactic lectures.
- Bright colored and snappy pamphlets.
- Colored posters.
- Circulars and pamphlets.
- Exhibits.

An old lady once said: "What goes in one ear often goes out the other, but when you see something with your eyes, as there is no hole at the back of the head, it is very apt to stick."

We pass without remark this bit of profound reasoning—but suggest that it appears to be the consensus of opinion that impressions acquired through sight are, as a rule, more enduring than those received in any other manner.

For this reason, motion pictures accompanied by lectures or explanatory titles (one or the other, not both) is placed at the head of the list of Public Health Educational methods.

In giving a lecture with an untitled picture, the speaker should follow the picture as it goes, and never get away from the subject which is the picture itself. It is perhaps superfluous to add that to "get across", the picture must not only have real educational value, but it must be interesting and so far as possible, entertaining.

If the picture be well supplied with explanatory titles, talk during its showing is apt to be disconcerting to an audience and will lessen its educational value.

In giving illustrated or didactic lectures before a lay audience, the speaker should guard against the temptation to cover the whole range of Public Health. It may be interesting, but it won't stick and his business is to teach.

He must tell it to them, prove it to them and influence them to adopt it as a practice—one subject at a time is enough. If oral hygiene is to be taught, there is no need to talk about outside sleeping porches; if tuberculosis be the subject, typhoid fever should not be dragged in.

Health lectures should avoid technical terms; for instance, instead of saying, "The gentleman suffered extensive ecchymosis of the palpebrae and subadjacent areolar tissues"—he should come out honestly and say, "The man had a black eye."

Sugar coated knowledge is much more easily assimilated than the raw stuff. How many have had the experience of attending a lecture and afterward being able to remember only the story with which the speaker illustrated a point, and remembering the story, the point was carried along.

Captain John Smith was an outstanding factor in the early development of the colonies, yet were it not for the story of Pocohontas, he would be known to few. Sir Walter Raleigh is remembered rather on account of the story of his gallantry in covering a mud puddle with his cloak that Queen Elizabeth might not wet her shoes, than because of the truly great things he did for England.

The greatest teacher of the world's history recognized the value of narrative in teachings, and his parables of nineteen hundred years ago are freely quoted today by many persons whose Biblical knowledge is otherwise notoriously deficient.

A good clean story well told, illustrative of the subject at hand, one interesting enough to be carried home and retold, is often productive of lasting good. It seems needless to add that long drawn out lectures are wearisome, and the speaker may save himself the embarrassment of a yawning audience by limiting his talk to thirty minutes.

Coming down the list, we arrive at "Exhibits," as not the least important, but rather the lesser of the important means of disseminating Public Health Education.

We hope to reconcile the apparently contradictory statement, that the best results are accomplished by visual education, with the list arrangement in which "Exhibits" occupies the last place, in an article on Public Health Exhibits, which will appear in the October issue, at which time we shall discuss the methods of organizing a local Public Health campaign.

THE HEALTH OFFICERS

By

DR. J. MOORE CAMPBELL, Director,

Bureau of Communicable Diseases.

All the necessary or desirable qualifications of a health officer are embodied in or follow as a consequence of two which seem to be fundamental:

1. He must be qualified to teach.
2. He must realize the fact that the accomplishments of the Department as a whole are, to a considerable extent, delimited by the character of his own work.

In other words, he must be able to recognize a twofold obligation—on the one hand to the community he serves, and on the other to the organization of which he is a very important part—and must fit himself and conduct himself so as best to satisfy what this obligation demands.

Compliance with measures restricting the individual for the public good and co-operation with authority in furthering public health programs are to be had in fullest measure, only when those concerned are sufficiently informed as to what is demanded, expected or desired and why. Those representatives of the Department most intimately in touch with the whole people—(its health officers)—have necessarily the greatest opportunity to impart information and instruction, and unless qualified to do so, one of the most important phases of public health work is neglected. Although better informed today than at any previous time, our people are still woefully ignorant with respect to many facts touching the communicable diseases. Measles and whooping cough are not only looked upon as necessary accompaniments of childhood, but as harmless seizures, about which no one should be unduly concerned, except insofar as the sooner over with the better. No greater mistake could be made. Pneumonia is a frequent and fatal complication, especially in children under five years of age, and a definite percentage of cases of tuberculosis can be attributed to the debility which follows these diseases. Neither can be eliminated, or, perhaps, even limited by any measures at present at the command of the health officer, but in every community is the need and opportunity of instilling the proper dread of these infections which will induce parents at least to seek to prevent the exposure of their very young children to them.

There are the fallacies that damp cellars cause diphtheria, that stench breeds typhoid fever, that disinfection of houses and school-rooms offers the readiest means of breaking up an epidemic of anything and no knowledge of the dangers—hence no fear—of the diphtheria convalescent whose throat has not been cultured, of the way-side spring or of the missed case returned still infectious to his playmates.

We have seen a nail which had just deeply punctured his hand carefully consigned to the vest pocket of the victim that the super-

stition might be fulfilled, that if the nail were kept dry, the wound would heal kindly and lockjaw be forestalled. Innumerable other superstitions abound, frequently to the definite prejudice of the person concerned.

Advertised tuberculosis, cancer, heart and kidney disease cures find many converts who sacrifice precious time in their trial. The dangers of neglected personal hygiene; of insanitary surroundings; of badly located wells or outhouses; of haphazard infant feeding—all are instances of the health officer's opportunity to enlighten. Advances in public health work—in creating and maintaining healthier environment in which people may live and work—and especially in communicable disease control—can be only so rapid as public recognition of their possibilities and advantages, through instruction, leads to the demand and co-operation that assures them.

Unquestionably the substitution of knowledge for ignorance and superstition has as large a place in public health work as in any other phase of community progress.

The character of the health officer himself and his sense of responsibility are hardly less important than the qualification just discussed. He will be measured by his intelligence, diligence and ability. Accordingly, as he may command the respect and confidence of his people, will he be successful or fail in his whole duty. The day has long since passed when his equipment was complete, if it included a stock of placards, tacks and a hammer and a satchelful of formaldehyde candles.

DISTRIBUTION OF BIOLOGICAL PRODUCTS*

By

MR. ROY C. MILLER, Chief,

Division of Biological Products.

Diphtheria antitoxin in curative and immunizing doses and tetanus antitoxin in immunizing doses are the only biological products distributed free through Pennsylvania's 720 State distributors.

Owing to the perishable nature of smallpox vaccine, toxin for the Schick test and toxin antitoxin mixture, and the exacting conditions under which it must be kept, these products are mailed direct to the physicians from the Health Department's refrigerating plant in Harrisburg.

The important factor in the preservation of potent serums and vaccines is not the age of the products, but the temperature at which they are stored. The Department's refrigerators maintain a regular temperature of 30°.

The number of deaths due to diphtheria has been lessened about 75% since the use of diphtheria antitoxin has become general.

A way has recently been found to render the individuals safe and develop a lasting immunity by the use of the Schick test and toxin antitoxin mixture. This protection is produced by giving three injections of toxin antitoxin, one week apart.

The State Department of Health feels that the children of every community should have the benefit of this protection and will furnish free Schick test and toxin antitoxin on receipt of the parental consent slips, signed by the parent or guardian, for children of pre-school age (infants of six months to children of six years inclusive).

The Department asks the co-operation of the physicians in this effort to control and finally eliminate diphtheria.

Active immunization is a public health measure of importance, and all citizens are urged to protect themselves and their children against diphtheria.

To encourage the use of toxin antitoxin, the State Department of Health has arranged to supply the material at State contract prices, for individuals over six years of age.

To meet any emergency and render immediate services to hospitals and physicians, the Department's refrigerating plant is continually stocked with a full line of biological products which are supplied to physicians at State contract prices.

Rabies vaccine has been added to this list of products and is carried in stock at all times ready for immediate shipment. A patient bitten by a rabid animal may be treated effectively and with assured safety in his own home or in the physician's office.

Before ordering the Pasteur treatment, if application be made to the officers of the proper poor district, this treatment will be paid for by the county poor directors, in accordance with an Act of the Legislature, approved the 7th day of May, 1907, as follows:

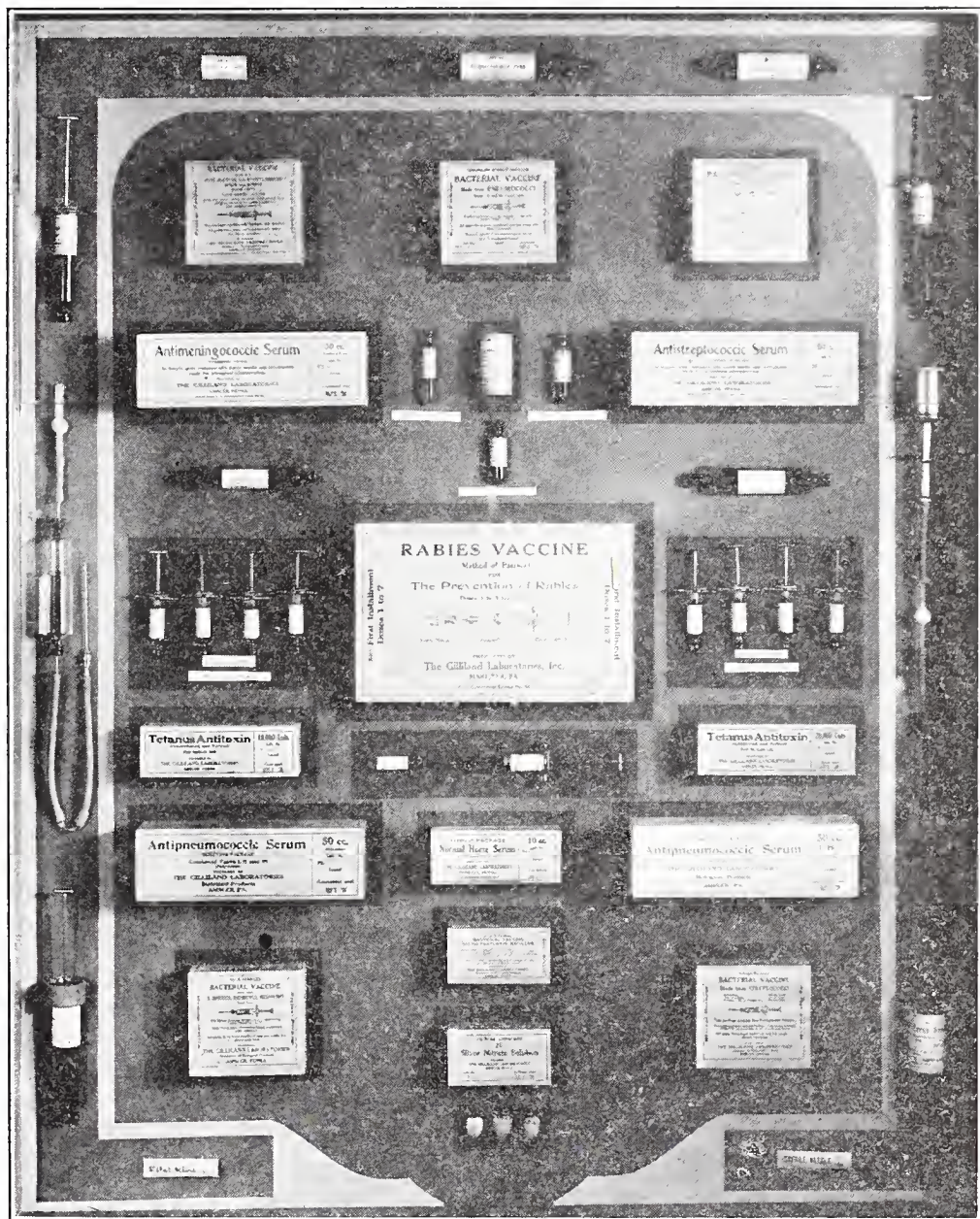
"Be it enacted, etc., that in each and every county of this Commonwealth it shall be the duty of the proper officers of the several poor districts in such counties, at the expense of such poor districts, respectively, to provide all persons who may apply for aid in their said several districts, who may be bitten by dogs or other animals suffering from hydrophobia, or rabies, with the proper medical attention to prevent the development of the disease in the person or persons so bitten, which medical attention may include the treatment known as the Pasteur treatment."

Since the World War, numerous requests for Tetanus-Perfringens antitoxin for the treatment of gas gangrene, caused by infection with *Bacillus Welchii*, have been received.

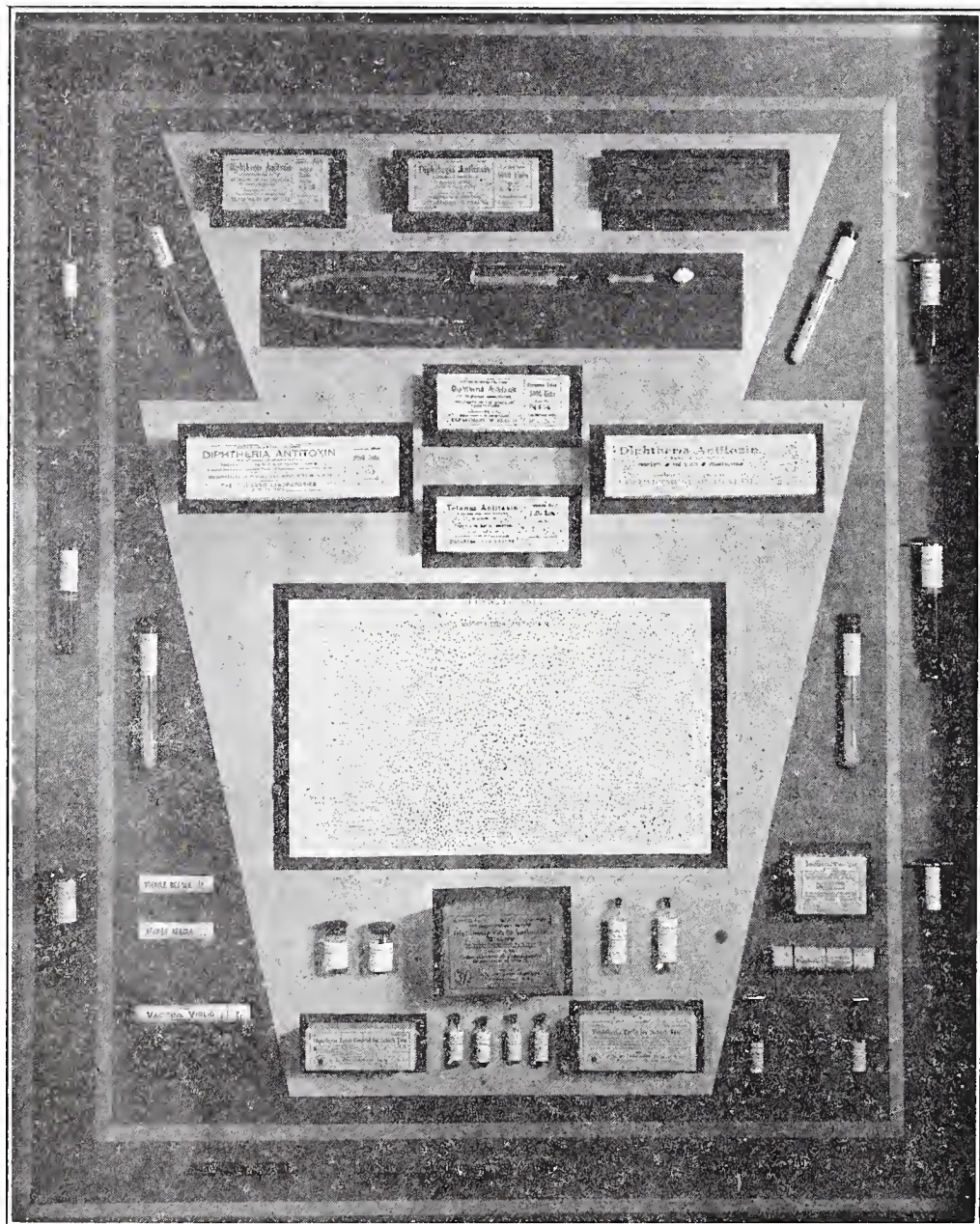
Each cc. of this antitoxin contains 14 nnits Perfringens antitoxin and 125 nnits tetanus antitoxin. The prophylactic dose is usually 10cc. administered subcutaneonsly. The therapeutic dose is 500 cc. intravenously—the initial dose 200 cc. followed in six to eight hours by 100 cc. and after twelve hours by 100 cc. This product is also furnished at State rates.

Exhibit No. 1 shows the various biological products furnished free by the State Department of Health and exhibit No. 2, those furnished at State contract prices.

*Abstract from Address given at the Instruction Camp.



Biological Products furnished free by the State Department of Health.



Biological Products furnished at State Contract Prices.

HEADACHE

By

DR. WILLIAM C. POSEY, Professor of Diseases of the Eye,

Graduate School of Medicine, University of Pennsylvania,

Chairman of the Commission on Conservation of Vision of Pennsylvania.

Not a day goes by in the consultation room of the ophthalmologist, that someone is not there for the relief of pain in the head, so universally recognized is it even by the laity that the eyes are frequently the sole and sufficient cause of headache. The imputation of headache to eye-strain is a comparatively new thing in the history of medicine, for it was little more than forty-five years ago that the connection between the two was recognized; for this the world owes a debt to Philadelphia, to her neurologists and ophthalmologists, and chief among these to Drs. S. Weir Mitchell and Wm. Thomson.

You may ask, "How shall we know when headache is due to eye-strain? Is there any location of the head-pain which suggests the eyes as the causal factor? Is the time of its occurrence of significance? Is it possible to have headache caused by eye-strain in individuals who claim to have good vision, and whose eyes present no signs of defect or inflammation?" Let me answer these questions *seriatim*. First, regarding the location of head pain, the result of eyestrain. I believe myself that information derived from this source is absolutely negative, for I have seen the eyes cause pain in every part of and all through the head. Usually, however, pain over one eye is significant, but dull pain at the back of the head is scarcely less so, and vertical, temporal and parietal pain are frequently originated by eyestrain.

As to the second point, the time of the occurrence of the head-pain. Here, at least, is a guide. A causal connection between the headache and the eye-strain usually exists. Thus, it will be ascertained that a morning headache was induced by the prolonged use of the eyes the night previous. In another patient, headache will appear in the late afternoon after an all day's session at the desk, whereas on Sundays or holidays, there is perfect freedom from all such symptoms. It must be noted, though, in this connection, that headache may be just as likely induced by the strain of regarding distant as well as near objects.

In fact, in many defects of the eye muscles, distant fixation is more apt to give rise to distress than prolonged application at close range. In this class of individuals, headache will appear in the morning after a night spent at the theater or at a lecture, or will be occasioned by watching moving objects, as crowds, or passing objects while seated in a trolley or railroad car. If the patient be catechized sufficiently, a connection between some unusual near or distant use of the eyes may generally be ascertained, and the hint given which will lead you to recognize the cause of the trouble.

The third category is disappointing—for in very many of these cases the eyes not only appear normal, but as far as the patient is

aware, they are faultless. Indeed, it may be put down as a rule, that eyes with red lids and injected conjunctivae do not, as a rule, cause headache or other reflexes. The strain seems to be relieved by the local turgescence and head symptoms are absent. Naturally, in many instances, it will be possible to elicit data which will demonstrate that the eyes are at fault. Many subjects will complain of the print blurring after protracted reading, of restricted distant vision, of occasional double vision. The diagnosis will be particularly easy in individuals between forty and fifty years of age, who are commencing to suffer from a restricted range of accommodation, due to physiological sclerosis of the lens, and are becoming presbyopic. Notwithstanding all this, however, a large proportion of the subjects who suffer from eye-strain will present no associated eye symptoms whatsoever, and the reason is this: that extremely small errors of refraction are quite as apt to give rise to headache and to reflex symptoms in the nervous system as large ones. The recognition of this point has been a triumph of the so-called "Philadelphia School of Ophthalmology," and the failure to grasp its significance an opprobrium upon the conservatism of Foreign Ophthalmologists. The continental ophthalmologist says correction of less than half a dioptré of astigmatism is folly, and indeed many of the boxes of test lenses in use in foreign cities are unsupplied with quarter of dioptré lenses. But the case is not really as bad for our European brother as I am leading you to believe, for you must know that there is a difference between the American eye and the European eye as well as in the American and European nervous systems, and the need of correction of small errors of refraction is not so great there as it is with us. If you will permit the term, the nervous system of the average American is "on edge." He is overworked, by the strain of making every effort to improve his position and his fortune, and to die a little higher up in the social scale than where he found himself, when he came into the world. His eyes, with his other faculties, get more use or abuse than those of his fellow across the ocean, and an ocular defect which is often trifling from an optical standpoint, may, in the susceptible state of his nervous system, be sufficient to cause symptoms which would never appear, were the strain upon all his sense organs and higher nervous centers less severe. And then again, I have reason to believe that the average American eye differs from that of the average European. You probably know that the near-sighted eye is the eye of civilization, the one best adapted for near use. We, as a nation, are becoming more and more near-sighted, but in passing from far-sightedness, the state of refraction of most of our eyes, to that of near-sightedness, certain kinds of astigmatism are developed, which occasion troublesome symptoms.

Before closing the subject of headache, let me add a word regarding the form of headache which is known as migraine, or sick headache. There has been much discussion of late regarding the curability of this affection, if we may indeed refer to it as a separate morbid entity, instead of enrolling it among the symptomatic headaches, and considerable controversy whether it is amenable to cure by glasses or not. I will not attempt to enter into this discussion here, but will merely give you my experience, which, in a few words, has

been as follows: that migrainous attacks may sometimes be cured, more often only controlled, and more rarely still, entirely uninfluenced by ophthalmic treatment.

But not only may headache be induced by eye-strain, but there are other reflexes which may be occasioned by it, which manifest themselves, especially in *Gastric and Digestive Disturbances and Vertigo*. If those who suffer with indigestion, so-called, be properly refracted, you will be surprised to find the need of frequent touching up of the liver with calomel, and the stimulation of the gastric mucous membrane with stomachics to be no longer necessary. The history of these cases, and I will generalize a few of the symptoms, rather than quote the histories of individual cases which is always wearisome to listen to, is as follows: a patient, who is accustomed to use his eyes much at short range, suffers from indigestion almost constantly as long as he carries on his work. He interrupts his labors for a short holiday in the open air, away from his books, and his digestive symptoms vanish. He eats everything without difficulty. He returns to his desk and in a few days distress reappears. He is advised that he does not get enough fresh air and exercise and takes to riding or golf or long walks in the afternoon. His symptoms, though improved, still persist. His diet is looked into and certain articles of food forbidden. By dint of this, of daily exercise and great caution with his diet, he continues his work with more or less discomfort and restriction. Finally, some one calls his attention to his eyes and he is properly glassed, and very shortly, to his amazement, he finds that his liver no longer gets out of order and that he can take decided liberties with his diet without fear of evil consequences. Time goes on, and at the end of six months or a year the same old digestive symptoms reappear. He sees his oculist again, his glasses are changed and he starts in with a new lease of prevention against gastric trouble.

Before any eye can be said to be properly glassed, it must, if in an individual under forty years of age, have been subjected to the action of some drug which temporarily suspends the action of the ciliary muscle. How can one possibly ascertain the refraction of the eye while the ciliary muscle is working and confusing the results? The reason we use atropin or homatropin is to put that muscle at rest, so that we may ascertain exactly the absolute length and curvatures of the eye. But after this is done, more difficult problems remain to be solved before the lenses can be prescribed; the strength of the ciliary muscle must be taken into account, the action of the extraocular muscles, the occupation of the patient, and a number of other things which demand a knowledge of the anatomy and physiology of the eye and of the workings of the human economy, which renders the task of writing the final prescription quite beyond the pale of the optician or spectacle vender, and calls into play the very highest attainments of the educated physician.

MENTAL HYGIENE AND CHILDHOOD

By

DR. EDWARD A. STRECKER, Asso. Professor of Psychiatry,

University of Pennsylvania, Philadelphia, Pa.

When we consider that man is the lord of creation and that the child, who is the man of tomorrow, is the most important of all things that live and grow, it is certainly amazing to realize how little attention we give to the normal traits and habits of our children. The horticulturist who wishes to produce a beautiful and perfect flower first thoroughly studies the nature of the seed and plant. Next he places it in an environment which will allow its best characteristics to appear. If conditions are just right for the particular plant, the result will be a wonderful blossom which gives pleasure to those who behold it and which almost seems to feel happiness itself, because it has attained complete development.

The flower which we should strive to bring to full bloom in our children may be called normal personality. In the struggle for existence, which as men and women they will have to face, it will be invaluable. It will insure only a reasonable degree of success, but above all it will mean satisfaction and contentment with life. On the other hand, if the surroundings were defective—did not supply what was required—so that the normal traits of the child were turned in the wrong direction, then we will have a stunted, ugly, abnormal personality, which will mean unhappiness—possibly even mental disease—for the child, when it reaches adult life.

What are these traits which all children have and which must be carefully handled, if full mental growth is to be reached? In the first place, the child is imitative. The faculty of speech, which has been such an important instrument in the progress of civilization, depends very largely on imitation—when the baby begins to speak, it is imitating what it hears. Naturally the child imitates bad example just as easily as it does wholesome example. The moral is clear. Deception, selfishness, indulgence, bad temper, cruelty, and the like should not be displayed by those who have children under their care. Eventually the baby will begin to copy them as surely as it repeats the words "Mamma" and "Papa."

The child is suggestible. This means that all kinds of unhealthy thoughts and unnatural behavior may be suggested by unwise words and actions. The mother who, when her little daughter accidentally stumbles and breaks a tea cup, remarks, "Poor Betty, she is so nervous, just like her father," is certainly suggesting nervousness and if she continues to do so, the child will become handicapped for life. Ordinarily young children are not frightened by minor accidents unless they read fear in the faces of their parents or others. Thus a baby, who had cut her finger ran to the nurse and said in a tone of pleasure, "See finger all jammy"—she only began to cry when she noted the horrified expression of the nurse.

All normal children are curious. It is fortunate for the future of civilization that they are. The inventions which make living so

easy and delightful, electricity, the telephone, the motor car, radio, are all at our service because someone was curious enough to experiment, that is, to try to find out. The ancient joke about the father who loses patience at the numerous questions of his small son has its serious side. The child is merely trying to satisfy a craving for knowledge which he needs just as much as the growing plant requires air, water and sunshine.

Children are more curious about sexual things than about anything else. This is because they soon become aware of a conspiracy of silence about this subject and naturally their curiosity becomes all the stronger. I believe that after the child begins to attend school, innocent questions should be answered in a simple and straightforward way. This belief is based on the fact that experience with many children has taught me their curiosity about sexual matters cannot be stifled and if they do not obtain satisfactory information from their parents, they will get ugly and harmful misinformation from other sources.

Children love power. They like to hold the center of the stage. This is not at all strange, since in early infancy they were able to control their immediate surroundings to a considerable extent. Everyone tries to anticipate the needs and desires of the baby. However, there comes a time when the child can no longer have its own way and must begin to conform to the wishes and rights of others. If the manifestation of this love of power, this wish to attract attention, does not go too far, it may be treated more or less casually and the child will soon learn to understand that it must respect the privileges of others. A bright youngster would occasionally refuse to eat his dinner and the more his father stormed and his mother scolded, the more stubborn became his refusal. Finally, when little attention was paid to him, he inquired anxiously, "Aren't you going to get angry, father?" When the parent replied that he did not have time to worry about boys who were foolish enough to go hungry, the child began to eat without any further difficulty.

Many children pass through a phase of savagery and romancing. There comes a time when they want to run away from home and kill Indians and when they tell fanciful tales which would have added to the reputation of Baron Munchausen. This is merely a stage in their normal development. There are many excellent and harmless substitutes for killing Indians and for tall story telling. Boy scouts, outdoor life, summer camps, competitive school athletics will not only provide a healthy outlet for natural savage instincts, but they will also increase the reserve of physical health and strength which will be sorely needed in later years. Acquaintance with good literature will satisfy the imaginative faculty and, by the exercise of good judgment and gentle training, the child will gradually be taught to distinguish between truth and fiction. In this way the imagination will be permitted to develop and at the same time the principle of truthfulness will be implanted in the growing mind.

There is much difference of opinion concerning the nature of the punishment which should be administered to children. There seems to be a general impression that physicians disapprove of corporal

punishment. This is not a fact. While it is true that certain types of hypersensitive, highstrung, delicate and nervous children should not be subjected to physical correction and that the correction should never be unduly harsh, it is equally true that corporal punishment is often helpful. Whatever be the mode of correction which is selected, it must fulfill certain requirements. It should never be postponed so that the child is left in a state of frightened anticipation for a long time. The mother who declares "when your father comes home tonight he is going to whip you" is not only shirking a duty, but is upsetting the emotional balance of her child. The offense which has been committed by the child should be closely associated with the punishment which is to follow immediately. In this way the child gradually comes to realize that certain types of conduct invariably result in pain or deprivation of one kind or another and he will usually avoid the bad behavior. Punishment should never be threatened and then not administered. Children soon recognize failure to keep a promise, even if it be a promise to punish. They soon lose respect for those who break their word. Punishment that is merely an expression of anger creates a perfectly proper anger and rebellion on the part of the child. The parent or teacher in losing his self control is misbehaving worse than the child and the child knows it. Such punishment may create fear in the child, so that it "minds," but its good behavior is purchased at too high a price for the reason that the hatred of and rebellion against authority becomes a fixed emotional habit leading to great difficulties later on.

In conclusion, parents should analyze their own upbringing. If anything happened through the fault of others in their childhood days which handicapped them in their adult life, they should carefully avoid burdening their children with a similar liability.

THE STATE NURSE IN RURAL SCHOOLS*

By

MISS ALICE O'HALLORAN, Director,
Bureau of Nursing.

In a number of instances, State Nurses have been called upon to render service to schools in fourth class districts, that is, districts which have a population of less than five thousand. The best results will be obtained when they follow the child into the home to present to the parents the findings of the medical examiner. The objects are first to aid the child to become physically fit through the elimination of his handicaps; to aid the child to be healthy; to create a healthful environment at school and at home.

To accomplish this, it is necessary for the child to have a thorough physical examination, and to be induced to create health habits.

Health is due to every child. The nurse with a vision, understanding her part, clears the way to remove misunderstanding and indifference. The correction of defects, both personal and environmental, is not sufficient, if the laws of health be constantly broken.

*Follow-up of Medical Examination of School Children of the Fourth Class School Districts.

Important in this work is the personal appearance of the nurse; also her interest in her work, her manner of handling children, and her own health, together with her ability to impart her knowledge to others.

All undertakings should be linked with the teacher. The teacher will be the strong ally of the nurse. Her pedagogical methods, her knowledge of the individual child and her close association are invaluable.

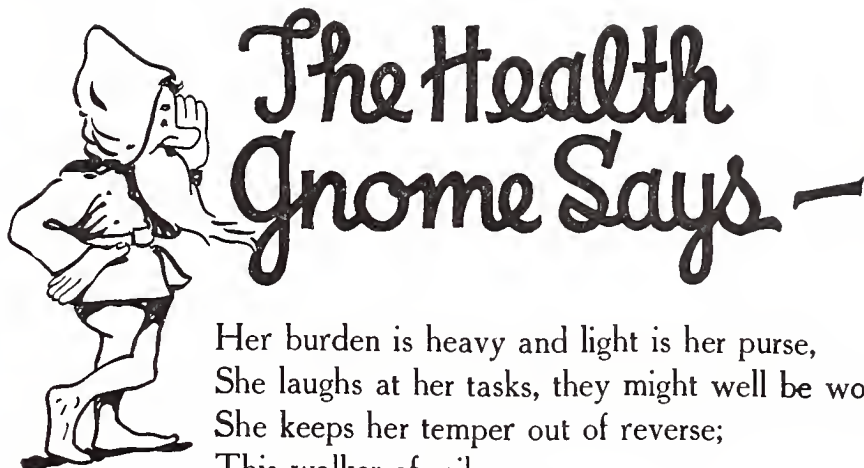
The school visit should be made when possible at the time the physician is examining the children. With him the nurse will discuss the findings and receive such suggestions as may be made for corrections. From him she will receive a duplicate copy of the form upon which she will note corrections when made.

The medical examiner makes the sanitary inspection; or the nurse may do this upon the request of the physician.

At the time of the home visit the nurse should give an explanation of the child's condition to the parents, and help the parents to arrange for medical attention. She also takes note of home conditions which may have an influence on the child's health: the sanitary conditions of the home, poverty, overcrowding, wrong dietary, ignorance and family habits. The home visit should give the nurse a complete picture of the child's environmental advantages and handicaps.

To secure material aid in the correction of defects, it may be necessary to confer with courts, clubs, local church groups, the Red Cross, Tuberculosis Society, Directors of the Poor, etc.

For the education of the parents and other members of the family, nurse and teacher must co-operate in the display of health literature, exhibits and demonstrations. The formation of classes in Home Hygiene, Pre-natal and Child Care, Nutrition, group talks, and talks at institutes are also important in this work.



The Health Gnome Says -

Her burden is heavy and light is her purse,
 She laughs at her tasks, they might well be worse,
 She keeps her temper out of reverse;
 This walker of miles,
 This purveyor of smiles,
 The - State - Health - Nurse.

BOOKS FOR NURSES

The Bureau of Public Health Education, through its library, has a list of valuable books for distribution to the Nurses.

These books will be sent out upon application and may be kept one week. An extension of one week will be granted for sufficient reasons. Application should be made to the Bureau of Public Health Education.

Following is a list of books for distribution and circulation:

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|---|---|
| The Hygiene of the School Child | Lewis M. Terman |
| The Measurement of Intelligence | Lewis M. Terman |
| Health Work in the Schools | L. M. Terman—E. B. Hoag |
| The Teacher's Health | L. M. Terman |
| Hygiene and Public Health | George M. Price |
| Principles of Public Health | Thos. D. Tuttle |
| Public Health Surveys | Murray P. Horwood |
| Physical Education | A. Maclaren |
| Course in Physical Education for the Common Schools of Kentucky | |
| The Kohler Method of Physical Drill | W. H. Wilbur |
| Disinfection and Disinfectants | M. J. Rosenau |
| The Lighting of School-Rooms | Stuart H. Rowe |
| The Itinerary of a Breakfast | J. H. Kellogg |
| A Handbook of Health | Woods Hutchinson |
| Children Well and Happy | May Bliss Dickinson |
| The Right of the Child to be Well Born | Geo. E. Dawson |
| Teaching the Sick | G. E. Barton |
| The Community Health Problem | Athel Campbell Burnham |
| Woman's Work in Municipalities | Mary Ritter Beard |
| Social Work | Richard C. Cabot |
| Civics and Health | W. H. Allen |
| Community Hygiene | Woods Hutchinson |
| How to Cook for the Sick | Helena V. Sachse |
| An Outline of the Pirquet System of Nutrition | Dr. Clemens Pirquet |
| The Newer Knowledge of Nutrition | E. V. McCollum |
| The Child's Day | Woods Hutchinson |
| Life's Clinic | Edith Houghton Hooker |
| Tuberculosis and How to Combat it.
(A book for the Patient.) | |
| Biology of Sex. | Francis M. Pottenger |
| Hygiene of Infancy and Childhood | T. W. Galloway |
| Physiology, Hygiene and Sanitation | A. D. Fordyce |
| Health & Safety | Frances G. Jewett |
| Making the Most of Life | Frances G. Jewett |
| Health Habits | O'Shea and Kellogg |
| The Body in Health | O'Shea and Kellogg |
| Health and Cleanliness | O'Shea and Kellogg |
| Making Tin Can Toys | O'Shea and Kellogg |
| The Expectant Mother | Edward Thatcher |
| Practical Talks on the Care of Children | Samuel M. Bandler |
| The Healthy Baby | Mary E. Bayley |
| A Layman's Handbook of Medicine | Roger H. Dennett |
| Nutrition and Growth in Children | R. C. Cabot |
| Infant Feeding | Wm. R. P. Emerson |
| Care of the Baby | J. S. Fowler |
| Care and Feeding of Children | J. P. Crozier Griffith |
| Food, Health and Growth | L. Emmett Holt |
| The Health of the Runabout Child | L. Emmett Holt |
| Infant Feeding | William P. Lucas |
| Healthy Child from Two to Seven | J. S. C. Macmillan |
| Child Training | Francis H. McCarthy |
| Care and Feeding of Infants and Children | Angelo Patri |
| The Prospective Mother | Walter R. Ramsey |
| Healthy Mother | J. Morris Slemmons |
| Healthy Children | Josephine Baker |
| Healthy Babies | Josephine Baker |
| Home and Community Hygiene | Josephine Baker |
| Nursing and Nursing Education in the United States | Jean Broadhurst |
| | Report of the Committee for the Study of Nursing Education. |
| Public Health Nursing | Mary Sewall Gardner |

A Hand-Book for School Nurses	Kelly & Bradshaw
Internal Medicine for Nurses	Clifford Bailey Farr
Principles of Nursing	Charlotte A. Brown
Bacteria and Protozoa	Herbert Fox
Chemistry and Chemical Urinalysis	Harold L. Amoss
Materia Medica and Therapeutics	Linette A. Parker
Industrial Nursing	Chas. Sumner Bacon
Sanitation for Public Health Nurses	Hibbert Winslow Hill
Organization of Public Health Nursing	Annie M. Brainard
Hygiene and Sanitation	George M. Price
A Nurse's Handbook of Medicine	J. Norman Henry
Home Nursing	Abbie Z. Marsh
The Battle with Tuberculosis	D. MacDougall King
Handbook for Midwives and Maternity Nurses.	W. E. Fothergill
First Aid in Emergencies	E. E. Eliason
Dispensaries	Davis and Warner
Obstetrics for Nurses	Joseph B. DeLee
Diseases of Children for Nurses	Robert S. McCombs
Dietetics for Nurses	Friedenwald & Rurah
Nursing Technic	Mary C. Wheeler
A Nursing Manual for Nurses and Nursing Orderlies.	D. C. L. Fitzwilliams

HEALTH CATECHISM

LESSON NO. 1.

A GREAT OPPORTUNITY

By

A State Nurse.

Q.—What is this great opportunity?

A.—The STATE offers free tuberculosis PREVENTORIUM and SANATORIUM care to the indigent of Pennsylvania.

Q.—Where?

A.—At the three Tuberculosis Sanatoria: Cresson, Hamburg and Mont Alto.

Q.—To whom is this offered?

A.—To you, if you are indigent, irrespective of creed, color or nationality.

Q.—When?

A.—NOW is the opportune time. Before tuberculosis is developed, or if in your weak, run-down condition, lowered resistance, you already have developed tuberculosis, lose no time in getting to the sanatorium early that the activity of the disease may be arrested and you may return to your home cured.

Q.—How do you get there?

A.—Through the State Tuberculosis Clinic nearest you. Inquire where they are located—what the days and hours are. Ask your Doctor.

Q.—How are you admitted to the State Clinics for examination?

A.—Any person may apply of their own accord, and any person, organization or community is urged to send or bring suspects, contacts or incipient cases for examination. After examination has been made and diagnosis and classification determined by the State physician at the clinic, your application is sent in at once.

Q.—When could you go?

A.—That will be determined by how early you get to the clinics for examination and classification. The earlier you come—the sooner you go.

Q.—Why?

A.—Because—first there, first served. The waiting list is usually long. And then, too, there are far more available beds for observation and incipient cases than for the more advanced cases.

Q.—Are there many Tuberculosis Clinics in the State?

A.—There is at least one in every County, some Counties have a number, they afford every community the opportunity of preventorium and sanatorium care. Community Health workers and health organizations ferret out cases and bring them to the clinics, then the State Physicians' and State Nurses' duties begin.

EXAMINATION OF SEMI-PUBLIC WATER SUPPLIES ALONG STATE HIGHWAYS

On July the first, the Engineering Division of the State Department of Health began its investigation of the semi-public water supplies along the public Highways of Pennsylvania.

Sanitary Engineer, Prof. Earl L. Waterman, aided by a traveling bacteriological laboratory in charge of Dr. John J. Wenner, have traversed the *Lincoln Highway* from Philadelphia to the Ohio State Line beyond Beaver Falls, the *Pittsburgh and Washington Highway*, the *National Highway* from the Ohio Line to the Maryland Line, the *connecting link* between the National Highway and the Wm. Penn Highway extending from the Maryland Line through Somerset and Johnstown to Ebensburg, the *Wm. Penn Highway* from Ebensburg to Easton, the *Lakes to the Sea Highway* from Tyrone and Water Street to Erie, the *Cleveland-Buffalo Highway* along Lake Erie, the *Pittsburgh to Erie Highway* between Meadville and Pittsburgh, the *Lackawanna Trail* from Easton through Stroudsburg and Scranton to the New York State Line near Binghamton, the *Highway* along the Delaware River from Stroudsburg to the Delaware River above Milford, the *Susquehanna Trail* from the New York Line at Lawrenceville to Williamsport, a distance of approximately 1500 miles.

It is planned during the month of September to complete this work by traversing the *Susquehanna Trail* from Williamsport through Harrisburg and York to the Maryland Line, the *connecting link* between the Wm. Penn and Lincoln Highway from Harrisburg to Chambersburg continuing to the Maryland Line and the *Baltimore Pike* from Harrisburg through Gettysburg to the Maryland State Line.

The primary object of this work was to provide the traveling public with safe water supplies along the highways. The method

of determining what supplies are safe and what are not has been as follows:

The Sanitary Engineer has driven along the highways selecting springs or wells which seem to be much used by the public either at eating stands, tourists' camps, school houses or troughs and has made a detailed physical examination of the supply and environment. If the physical examination is satisfactory, it has been marked with a temporary symbol and the traveling laboratory following has obtained samples and made analyses directly in the field from each supply.

Reports on the engineering and bacteriological examination have been sent to the main office of the Bureau of Engineering for study by Mr. H. P. Drake, Sanitary Engineer.

In cases where both the physical examination and bacteriological analyses have been satisfactory, the Bureau of Engineering has had the local health officer of each township place a distinguishing placard on the supply notifying the public that it is safe for drinking purposes. This placard, made of enameled iron resembling the present license plates of the State Highway Department, bears a number and the year the placard is issued.

In cases where the physical examination and the bacteriological analyses show conclusively that the supply is dangerous, the health officer has been instructed to either close the supply to the public or place a cloth warning sign on it.

Whenever the physical examination of the supply has shown conditions which are not satisfactory, but which may be overcome by improvements to either the well or spring, the owners have been so notified and suggestions made as to the nature of improvements. All these cases have been followed up by the health officers and when they have reported to the Bureau of Engineering that the improvements have been made, the supplies have been resampled and a "Safe Water" placard issued as above described, whenever the bacteriological analyses warrant.

Another class of wells and springs has been found where the physical examination has shown no unsatisfactory conditions, but where the bacteriological analyses have been somewhat suspicious. In these cases the "Safe Water" placard has not been issued, but the water supply has not been closed to the public.

In the 1500 miles so far covered, approximately 725 examinations have been made. Of these 275 have been found satisfactory both physically and bacteriologically and "Safe Water" placards posted; 130 have been found to be unsatisfactory and the owners notified; 75 have been unsatisfactory from a physical examination, but suggestions for improvements have been made to the owners and as soon as these improvements have been made the supplies will be resampled; 175 have been from public supplies under the direct supervision of the Bureau of Engineering and hence safe for use, but no "Safe Water" placards have been issued in these cases.

On the remaining 70 supplies no action has been taken, since in this class are included supplies which are somewhat suspicious, but are not considered dangerous having good physical surroundings; supplies which the owners would not care to have placarded as safe and others which the examining engineer was not convinced would always continue safe.

It should be remembered that many of the 275 receiving the "Safe Water" placard have received this placard only after the owners have completed improvements suggested by the Department's representatives.

While this work was primarily intended for services to the traveling public, it is in reality the beginning of a new idea in rural sanitation with the direct object of improving conditions and reducing typhoid fever in the rural communities. It is hoped that next year the work will continue on broader and more extended lines and having for its primary object the furnishing of safe water supplies of a semi-public nature, but also furnishing the farmer and resident in rural communities with advice, not only on improvement of the individual water supplies, but also general sanitary conditions on the properties.

COMMUNICABLE DISEASES IN PENNSYLVANIA

JUNE 1924.

By

DR. WILMER R. BATT, Director,

Bureau of Vital Statistics.

A total of 9,889 cases of communicable diseases was reported for June 1924, a decrease of 3,410 as compared with the preceding month. Urban cases decreased 2,646 and rural cases decreased 764. There was a greater percentage of decrease in rural areas than in urban.

There was a decrease of 439 in Scarlet fever, 438 in Measles, 182 in Whooping cough, 179 in Diphtheria and 7 in Typhoid fever.

Diphtheria occurred in fifty-one counties, Scarlet fever in fifty-five, and Typhoid fever in thirty-three.

There was a decrease of 7 in the total number of Typhoid fever cases and a decrease of 39 as compared with June of the previous year. The rate per 100,000 of population for urban districts was 0.95 as compared with 0.84 in May, and the rural rate was 1.61 as compared with 2.14.

There were 45 cases of Smallpox reported as compared with 38 for the preceding month and 33 for June 1923. All but one case occurred in urban districts, there being fourteen centers of infection as follows:

<i>Urban</i>		<i>Urban</i>	
Clairton, Allegheny Co.,	1	Chester, Delaware Co.,	4
Pittsburgh, Allegheny Co.,	15	Wilkes-Barre, Luzerne Co.,	1
Wilkesburg, Allegheny Co.,	1	Farrell, Mercer Co.,	1
Woodlawn, Beaver Co.,	2	Philadelphia,	6
Reading, Berks Co.,	3	Donora, Washington Co.,	7
Altoona, Blair Co.,	1		
Johnstown, Cambria Co.,	1		
Harrisburg, Dauphin Co.,	1		
		<i>Rural</i>	
		Schuylkill County,	1

There was but one case of Anterior poliomyelitis reported, located in the rural section of Beaver County.

There were eight cases of Encephalitis lethargica, the same number as for May and for April. All were reported from urban districts, as follows:

Philadelphia,	6
Bethlehem, Northampton Co.,	1
Collingdale, Delaware Co.,	1

The diseases occurring during the month of June, by urban and rural districts, and a comparison with the corresponding month of the previous year are as follows:

	Total		Urban		Rural	
	June 1924	June 1923	June 1924	June 1923	June 1924	June 1923
All diseases	9,889	12,343	8,208	9,170	1,681	3,173
Anterior Poliomyelitis	1	3	1	2	0	1
Anthrax	0	4	0	4	0	0
Cerebrospinal meningitis	4	7	2	7	2	0
Chickenpox	1,209	1,399	1,063	1,235	146	164
Diphtheria	736	835	613	622	123	213
Erysipelas	89	79	79	66	10	13
German measles	423	117	382	100	41	17
Malarial fever	1	2	1	2	0	0
Measles	2,231	6,261	1,764	4,068	467	2,193
Mumps	1,967	404	1,586	347	381	57
Pellagra	0	1	0	1	0	0
Pneumonia (true)	426	231	415	225	11	6
Puerperal fever	4	0	4	0	0	0
Scarlet fever	1,052	799	806	599	246	209
Smallpox	45	33	44	33	1	0
Tetanus	6	3	4	0	2	3
Trachoma	3	1	3	0	0	1
Tuberculosis	523	563	488	514	35	49
Typhoid fever	105	144	62	102	43	42
Whooping cough	1,013	1,378	841	1,164	172	214
Impetigo	17	20	17	20	0	0
Scabies	21	46	21	46	0	0
Ophthalmia	5	13	4	13	1	0
Encephalitis	8	0	8	0	0	0

COMMUNICABLE DISEASES IN PENNSYLVANIA JULY 1924.

A total of 6,036 cases of communicable diseases was reported for the month of July 1924, a decrease of 3,853 as compared with the month of June. Urban cases decreased 3,233 and rural cases decreased 620. The percentage of decrease in urban areas was slightly greater than in rural areas.

There were the following decreases: Measles 1,176, Mumps 1,170, Scarlet fever 459 and Diphtheria 103. Whooping cough shows an increase of 370 over the preceding month, Typhoid fever 77 and Smallpox 31.

Diphtheria occurred in fifty-five counties, Scarlet fever in fifty-six and Typhoid fever in forty. Fourteen counties had but one case each of Typhoid fever.

The increase of 77 cases in Typhoid fever was shared between urban districts with an excess of 58 over the month of June and rural with an excess of 19. The rate per 100,000 of population for

urban districts was 1.85 as compared with 0.95 in June, and the rural rate was 2.33 as compared with 1.61 for June.

Seventy-six cases of Smallpox reported for the month included 69 urban and 7 rural, located as follows:

<i>Urban</i>		<i>Urban</i>	
Swissvale, Allegheny Co.,	1	Pottsville, Schuylkill Co.,	2
Pittsburgh, Allegheny Co.,	50	Finleyville, Washington Co.,	1
Reading, Berks Co.,	1	Monessen, Westmoreland Co.,	1
Carrolltown, Cambria Co.,	1		
East Conemaugh, Cambria Co.,	1	<i>Rural</i>	
Franklin, Cambria Co.,	2	Allegheny County,	1
Gallitzin, Cambria Co.,	1	Clearfield County,	4
Johnstown, Cambria Co.,	7	Potter County,	1
Columbia, Lancaster Co.,	1	Schuylkill County,	1

As compared with the preceding month there was an increase of ten cases of Anterior poliomyelitis in July. There were five urban cases and six rural, as follows:

<i>Urban</i>		<i>Rural</i>	
Tyrone, Blair Co.,	1	Allegheny County,	1
Tunnel Hill, Cambria Co.,	1	Beaver County,	1
Wilkes-Barre, Luzerne Co.,	1	Chester County,	1
Williamsport, Lycoming Co.,	1	Erie County,	1
Philadelphia,	1	Lancaster County,	1
		Montour County,	1

There were three cases of Encephalitis, five less than were reported for June. Two were urban and one was rural, as follows:

<i>Urban</i>		<i>Rural</i>	
Philadelphia,	2	Beaver County,	1

The diseases reported for the month of July, by urban and rural districts, and a comparison with the corresponding month of 1923 are as follows:

	Total		Urban		Rural	
	July 1924	July 1923	July 1924	July 1923	July 1924	July 1923
All diseases	6,036	5,687	4,975	4,108	1,061	1,579
Anterior poliomyelitis	11	5	5	3	6	2
Cerebrospinal meningitis	5	11	5	9	0	2
Chickenpox	472	442	395	356	77	86
Diphtheria	633	707	502	518	131	189
Erysipelas	37	22	33	21	4	1
German measles	96	21	79	13	17	8
Malarial fever	0	3	0	2	0	1
Measles	1,055	1,615	850	897	205	718
Mumps	797	133	660	98	137	35
Pellagra	0	1	0	1	0	0
Pneumonia (true)	96	159	96	156	0	3
Puerperal fever	0	9	0	9	0	0
Scarlet fever	593	424	446	365	147	119
Smallpox	76	22	69	22	7	0
Tetanus	7	22	5	19	2	3
Trachoma	6	7	6	7	0	0
Tuberculosis	563	552	538	525	25	27
Typhoid fever	182	180	120	116	62	64
Whooping cough	1,333	1,399	1,144	988	239	321
Impetigo	12	21	12	21	0	0
Scabies	0	1	0	1	0	0
Ophthalmia	9	5	8	5	1	0
Encephalitis	3	16	2	16	1	0

DEPARTMENT NOTES

The nursing force of the State Department of Health is composed of an army of women who are willingly and whole heartedly devoting their lives to the service of others.

One may travel the State from Erie to Philadelphia—from Honesdale to Waynesburg and it matters not how inconsequential the hamlet, if the question be asked: "Has the State Nurse ever been here?" The answer will invariably be: "Yes"—and in most instances the nurse's name and address will be known.

Her work goes on, quietly, regularly but effectively from the first of January to the thirty-first of December, year after year. When special duty is imposed upon her, it is taken as a matter of course and she does it as a part of the day's work. If she finishes her work in eight hours, well and good, if twelve hours be required, there is never a murmur.

An example of Public Health nursing efficiency is instanced in the work of Miss Edith Bottorf, whose headquarters is Lock Haven and who has nursing supervision over Clinton and Cameron Counties. During the Toxin-antitoxin drive last spring, Miss Bottorf made a record of 1917 persons immunized. Considering that the combined total population of the two Counties is less than 40,000—this record is going to be hard to beat.

Early in the spring, the Department supplied the majority of State Nurses with Emerson's Book on Nutrition. In accordance with the policy of the Nursing Division, questionnaires were sent to each nurse having the book, in order to determine how much actual benefit this move meant for the Department. Answers have been received and with very few exceptions have indicated not only that the books have been read, but that they have made a deep and lasting impression.

The second questionnaire is now in the course of preparation and will be issued in the near future.

A few State Nurses deserve special mention for their zeal and efforts to increase their personal efficiency:

Florence Phillips, Supervisor, District No. 1.
 Blanche Hayes, Supervisor, District No. 2.
 Esther Kersey, Dauphin County.
 Isabelle Patterson, Berks County.
 Jane Dixon, Northumberland County.
 Lida Palmer, Crawford County.
 Kate Bernheisel, Perry County.
 Esther Campbell, Blair County.
 Anna E. Birkner, Columbia County.

These Nurses attended a special intensive course, either at Columbia University, or the University of Michigan. They attended

these courses at their own expense and received no salary from the State during their absence.

Mr. Samuel M. Heulings, formerly of the Scheffield Farms, Inc., New York City, a dairy engineer of international reputation, has affiliated himself with the Board of Health of Lower Merion Township, Pennsylvania, as Deputy Milk Control Officer. Mr. Heulings is giving, in the interests of Public Health, a knowledge acquired from many years' experience in practical milk plant operation. He will assist Dr. George W. Grim, present Milk Control Officer in securing complete enforcement of regulations of the Lower Merion Board of Health, concerning Pasteurization. The Pennsylvania State Department of Health requires that all milk to be sold as Pasteurized, be heated to a minimum temperature of 145 degrees Fahrenheit and held at not below that temperature for a minimum period of thirty minutes.

A recent survey indicates that while Tuberculosis is on the decrease in all other parts of Pennsylvania, there has been a marked increase during the last year in Cumberland County. This does not necessarily indicate a sudden development of unhealthful conditions, but does indicate a laxity of vigilance.

In the warfare against Tuberculosis in that locality, the Secretary of Health has directed an intensive campaign in Cumberland County, which is now in progress under the management of Dr. Edgar T. Shields, Chief, Division of Tuberculosis Clinics.

The first volunteer Clinic of Dauphin County was opened at Lykens, on August 22, 1924. Dr. C. R. Phillips and Dr. Arthur L. Page of Harrisburg were the examining physicians. The Clinic was arranged for by the Tuberculosis Society which provided the Nurse, Miss Ethel Kersey and a large part of the equipment.

The physicians of the upper end of the County gave their hearty co-operation and the factories and stores in the neighborhood of the villages assisted the Society in urging their employes to attend the Clinic. The Red Cross, through its intimate knowledge of that part of the County, brought in a large number of patients.

The result of the examinations showed that more than 50 percent of those examined were tuberculous. A number of others were under suspicion and were recommended to be placed under observation. All records of examination have been turned over to the State Department of Health and the State Nurses will take care of the follow-up work.

The next volunteer Clinic held by the Tuberculosis Society will be for the rural sections of the lower part of Dauphin County.

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By The Pennsylvania Department of Health

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The Health Gnome Says

*The flies met in convention,
And decided one and all,
That the house fly's greatest menace
Was the clean-up in the fall.
And they hope you'll leave your litter,
Not disturb a single thing,
So that flies may pass the winter
And be millions in the spring.*

The Listening Post

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EDITOR

Wm. C. Miller, M. D.

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"Acceptance for mailing at special rate of postage provided for in section 1103,
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70+

Suppose a good fairy would appear before you and offer you a choice of gifts which was within her power to bestow. Suppose she said, "You may have a large sum of money," "You may have a fine automobile," "You may have the fulfillment of your heart's desire in almost any direction," or "You may have five years of additional life." You would not hesitate a moment. Every one would say, "Give me five more years of life."

It is quite possible for you to receive this without the aid of any other good fairy except "good sense."

Go to your Doctor and have a health examination. Do this every year. Do not forget what the Listening Post has been saying about 70+. Your life may be extended far into 70+.

Last month we urged you to have a health examination. Have you done so? Write to the Listening Post and tell us whether or not you have.

W. C. M.

DIFFERENTIAL DIAGNOSIS BETWEEN SMALLPOX AND CHICKENPOX

By

DR. A. A. CAIRNS,

Chief Medical Inspector, Bureau of Health, Philadelphia.

Smallpox may be distinguished from chickenpox by considering carefully the symptoms peculiar to each. There is usually no difficulty in differentiating between smallpox and chickenpox, but between the latter disease and certain forms of mild smallpox or varioloid, the difficulty is often very great, and mistakes in diagnosis are not uncommon. The teaching that chickenpox is a disease peculiar to childhood is, I think, responsible for many errors of diagnosis, inasmuch as it tends to create a belief that in adults eruptions resembling chickenpox always indicate smallpox. It should be borne in mind that chickenpox is by no means infrequent in adult life.

VACCINATION

In differentiating between the two diseases, it will often prove helpful to know whether or not the patient has ever been vaccinated. When a vesicular eruption suddenly appears in a child who has recently been successfully vaccinated, smallpox can be excluded from the question of diagnosis with almost absolute certainty. So also smallpox can be reasonably excluded, when such an eruption appears in an unvaccinated child without having been preceded by constitutional symptoms more or less severe, such as are peculiar to the initial stage of that disease. In children, however, older than ten years, and also in adults who have been vaccinated in infancy, the smallpox eruption is often so greatly modified as to bear considerable resemblance to the lesions of chickenpox. It is this class of cases, in which the eruption shows no distinctive characteristics, that frequently taxes to the utmost the skill of the diagnostician. Although difficult, it is important that a correct diagnosis should be made, since in the one case the contagium generated is comparatively innocent, while in the other it is frequently disastrous in its results. When, however, a history of exposure to either of these diseases can be obtained, the diagnosis becomes, of course, quite easy.

FEVER

In differentiating smallpox from chickenpox, it is very important to note the behavior of the fever. In smallpox the temperature suddenly rises, after a decided chill or repeated rigors, to a considerable elevation. It frequently rises during the first twenty-four hours of the illness to 103 degrees Fahrenheit, and continues high for four or five days, or until the eruption has fully appeared. In chickenpox the temperature rarely or never rises so high, and indeed, no elevation is usually seen at all in children until the vesicles make their appearance. Even in modified smallpox or varioloid the temperature is usually at first, and this symptom almost always precedes the eruption from two to four days. There is no secondary or suppurative fever in chickenpox as in smallpox. It is true that in mild cases of varioloid, which variety of smallpox, chickenpox more closely resembles, there is likewise no secondary rise of temperature; hence other points of differentiation must be considered in such cases.

It should be noted that there are certain features of adult chickenpox which are not common in chickenpox in children. Clinical experience shows that it is not rare for adults to feel ill at least a couple of days before the appearance of the chickenpox eruption. There is commonly malaise, chilliness, headache and some backache, nausea and moderate rise of temperature to 101 degrees or 102 degrees Fahrenheit. These symptoms are similar to those seen in the initial stage of smallpox, but less severe. High fever, intense backache, repeated vomiting, vertigo and prostration, so common in smallpox, are not experienced in chickenpox.

SKIN MANIFESTATIONS

Every now and then one will see cases of chickenpox in adults in which quite indurated papules will be observed on certain parts of the body, particularly on the thick skin of the forehead. Typical chickenpox vesicles, however, will be found elsewhere upon the skin

surface. A significant sign in many of these cases is the presence of vesicles here and there which have undergone rapid rupture and crusting, with the production of blackish or bluish-black scabs and depressed in their centers, while the borders of these lesions are still vesicular. The eruption is nothing like as uniform in its development as is that of smallpox. In chickenpox the lesions may be seen in varying stages of development. The co-existence of small red spots, recent distinct vesicles, older puckered vesicopustules, and dried crusts, is highly characteristic of the disease.

It is stated by some writers that chickenpox lesions do not occur upon the palms and soles. It is true that in most cases the palmar and plantar surfaces are free of eruption, but it is by no means rare to find a few vesicles in these regions, and in severe cases the lesions may be fairly numerous. The palms and the soles are, however, much less frequently and less abundantly involved than in smallpox, in which disease some lesions are nearly always present in these regions.

It frequently happens in smallpox, especially in the modified forms of the disease, as well as in chickenpox, that no reliable history of initial fever can be obtained, so that in very many cases the diagnosis must be made from the appearance of the eruption alone. It is therefore important to bear in mind that the eruption of chickenpox makes its appearance in the form of distinct vesicles containing clear serum; that they are usually seen first in the greatest number on the portions of the body covered by clothing, especially on the back; that they make their appearance in successive crops, and vary greatly in size; that their epidermic covering is delicate and can be easily broken by the fingernail; that many of them enlarge by peripheral extension, while desiccation is seen in their centers, causing a central depression; and that but few are followed by permanent scars. On the other hand, the eruption of smallpox first appears in the form of papulæ, which are slowly transformed into vesicles and then into pustules; the papulæ are dense and hard, and, to the sense of touch, seem like grains of sand buried in the skin; the eruption prefers the exposed surface of the body, such as the face, arms and hands, being as a rule only sparsely seen on the trunk; the lesions usually are first seen on the face and are slow in spreading over the body, but they never come out in successive crops; the vesicles are dense and firm, especially on the exposed surface of the skin, and cannot be readily obliterated by the fingernails; they do not vary so greatly in size as in chickenpox: they are umbilicated by the epidermic covering, being slightly drawn inward, rather than by desiccation commencing in their centers; the eruption requires from six to twelve days to pass through its various stages and ends by the formation of comparatively thick, dark crusts; and most of the lesions, especially those on the face and hands, are followed by permanent scars.

ATYPICAL CASES

While the symptoms just enumerated are peculiar respectively to chickenpox and smallpox, and while there should be no difficulty in diagnosing any case in which either series of symptoms are complete, yet it must be admitted that there are intermediate cases in which the symptoms are so atypical that they cannot be readily

assigned to either category. It may, however, be said in a general way that a mildly febrile eruption appearing without prodromal symptoms, being distinctly vesicular from the beginning and commencing to desiccate on the second or third day, should be regarded as chickenpox; and, on the other hand, an acute eruption preceded by an initial stage in which the temperature was high, beginning as papules and ending in vesicles or vesico-pustules, even though the period of evolution be short, should be regarded as smallpox. At any rate, if a doubt should exist, it would be wise, for the safety of the public, to regard such a case as suspicious, and enforce the necessary precautions until the doubt is removed. If it should happen that in a case in which the diagnosis cannot be clearly determined, vaccination had never been performed, it would be well to apply this test, for it is well known that smallpox renders an individual immune to vaccinia, and that chickenpox does not.

REVACCINATION

Jenner taught that a person who had once taken cowpox could not contract it again, and, that as it was essentially smallpox, he would remain protected from that affection. According to Jenner, therefore, revaccination is not necessary, providing the first insertion was thoroughly and effectually made. This is nearer the truth than the general public supposes. One constantly meets with persons who cannot be made to take vaccine disease a second time, but this is not the rule. Most persons will have a sore arm twice in their lives following vaccination, during infancy, and immediately after the fourteenth or fifteenth year. Infants are, probably, as susceptible to the contagion of smallpox as they are to any other of the diseases of its class. In late childhood the susceptibility seems to be somewhat diminished, to be increased again after the fifteenth year. As persons manifest a stronger disposition to take smallpox from this year until the twenty-fifth year, for the same reason they evince an increased susceptibility to vaccine disease during this period. This is not because there is any disposition for the influence of vaccination to wear out in a given time. The popular idea that its effects are exhausted, and have to be renewed every seven years, is unsupported by any facts whatever.

It may be concluded that revaccination is important in the highest degree, and that it should never be omitted after the fifteenth year of life. As it can do no harm, and may do much good, it should be repeated whenever an epidemic occurs; but if the vaccination and revaccination have been thoroughly and efficiently done, this is less important than most persons suppose.

EXHIBITS IN PUBLIC HEALTH EDUCATION

By

DR. WILLIAM C. MILLER, Director,
Bureau of Public Health Education.

The placing of "Exhibits" at the bottom of the list of health teaching resources in the September issue of the "Listening Post" was not that exhibits have little educational value, but rather because, as they are usually displayed, the returns are light in proportion to the effort exerted.

Why do you pass one show window with scarcely a glance and worm your way through the crowd to look at another?

In the first instance, the window was set in order by an amateur, while the other was arranged by an experienced professional window trimmer, who had studied the range of public curiosity, and knew how to cater to popular taste.

The reason the average health "Exhibit" does not rate high as a teaching factor is generally because the selection of material and the arrangement of the display do not have the happy combination of artistic effect and teaching punch.

A health exhibit should emphasize health requirements (on the particular subject of which it treats) with which the general public is not familiar. It should be sufficiently attractive and interesting to hold attention, so plain that it may be understood by all and so practical that it will leave a lasting impression.

Everything technical should be avoided; for instance, Hospital Charts, which are plain as print to physicians and nurses, mean little to the average layman.

Long rows of statistical figures are confusing, but a chart or model of graduated columns, showing the relative prevalence of different diseases, is easily understood.

If photographs be used in exhibits, they should be of uniform size. 16 x 18 on a 30 inch mat, enclosed in a plain black frame, is very effective. In arranging photographs, maps or charts in exhibits, the convenience of the public must be taken into consideration.

If booths be used, the lower edge of the frames should not be lower than four feet from the floor; this will bring the center of the picture about opposite the eye of the average person.

Should a second row be necessary, place them under the first, but tilted inward at an angle of 45°. This will present the same effect when the visitor looks downward. This angle is particularly adapted to visitors who wear bi-focal glasses.

The inner or projecting edge of the picture can be supported by a rough frame work, which may be concealed by a drapery, such as denim, muslin or even paper.

If a third row of pictures or charts be necessary to properly cover the subject, their lower edges may rest on the original row and they should be tilted forward at an angle of 45°, their tops supported by picture wire from the back.

Each picture should be appropriately titled and arranged in series to tell the story it is intended to convey. Every picture should express something definite; for instance, the photograph of a building exterior titled, "Winburg Child Health Clinic," does not tell the story while, "Winburg Free Child Health Clinic, 7 N. X St., open Wednesdays and Saturdays from 2 to 4 P. M.," expresses something concrete and makes the photograph mean something.

A photograph, showing a group of children and mothers, labelled "Winburg Child Health Clinic," would be much more enlightening, if to the legend were added, "An average of 30, or whatever, babies is brought to this free clinic each week."

Several years ago the writer experimented with group photographs by arranging a number relating to the same subject in a series. At first twenty-four were used. They were appropriately labelled. The story they told was of a health officer receiving notice from the doctor, leaving his home, going to the house of the patient who had Diphtheria, quarantining the place, instructing the householder as to the care necessary to be taken to prevent contagion, reporting to the State Department of Health, the technique in the office at the State Department of Health, reporting of the doctor to the health officer that the case was to be released from quarantine, the health officer's return visit to the home, the disinfecting of the house, etc.

It was found upon observation, that although the pictures were interesting, after looking at a few of them, visitors passed on to look at something else.

The next number tried was twelve, with a different but equally interesting subject. The result, so far as visitors were concerned, was no better. It was found, after considerable experimentation, that six human interest pictures were about the limit for a series upon any health subject, and four are even better than six.

An experience of the writer will serve as a general suggestion as to the exhibition of models. The Pennsylvania Department of Health, among other things in a tent exhibition at County fairs, had a model sleeping porch. It was made in miniature according to an approved design, the roof was on hinges so that it could be raised for visitors to see the interior, for we were very anxious to have the public become interested in it. The porch projected from a very attractive model house, it was put in a conspicuous place in the tent, yet people passed and re-passed without noticing it.

On the model house was a chimney. A small caliber rubber tube was placed in the chimney. We secured a chemical combination which would produce smoke. This we placed in a tightly fitting box in the lower part of the model house and the smoke was led through the chimney by a small rubber tube.

The model house now presented the appearance of life. The smoke curling from the chimney was sufficient to attract attention and visitors would almost invariably stop to see what it meant.

We provided the sleeping porch with miniature furniture, using very small dolls to represent persons. This added to the attraction and the result was, visitors were soon asking questions and manifesting interest.

It should be borne in mind that the same general principles apply to models as to other methods of promoting public health education. First, you must attract attention, second, you must arouse interest and third, achieve results.

PHILADELPHIA'S USE OF TOXIN ANTITOXIN*

By

DR. EDWARD L. BAUER, Assistant Diagnostician,
Division of Medical Inspection, Department of Public Health.

HOW DOES TOXIN ANTITOXIN IMMUNIZE?

It is a well known fact that the young child is susceptible to diphtheria in greater numbers than adults. This is due to the fact that, as the individual approaches adult life, he develops a progressively increasing blood antitoxin content. The blood antitoxin content of any individual may be determined definitely. Some have none, some have one-fiftieth of a unit to each cc. of blood, some have a tenth, and some have one or two units or more.

When toxin antitoxin is administered, this blood antitoxin content increases with a relative rapidity that is far and away ahead of the natural tendency, so that the point of actual immunity to diphtheria is passed in from three to six months by at least ninety-five percent of individuals. Our figures show that seventy-five percent is immune at the end of three months, and ninety-seven and five-tenths percent at the expiration of six months, using New York Bureau of Health Toxin Antitoxin exclusively.

It would appear then that toxin antitoxin stimulates the development of the blood antitoxin content in a reasonably short period of time, certainly with a greater rapidity in a given individual than would otherwise occur. This means protection for the individual far sooner than would be developed, if he were left to his own natural tendencies.

TO WHOM SHOULD TOXIN ANTITOXIN BE ADMINISTERED?

Toxin Antitoxin should be administered to all infants at their sixth month, most certainly before the expiration of their ninth month. Prior to the sixth month, most infants have a maternally transmitted immunity and cannot be stimulated to a blood antitoxin production. After the sixth month, the stimulation will take place and is sorely needed, because susceptibility rapidly approaches its peak when the maternal immunity is lost. All susceptible individuals, especially children, should be given the benefit of active immunization.

PERMANENCY OF TOXIN ANTITOXIN IMMUNIZATION

The tendency to the development of immunity against diphtheria as adult life is approached and the maintenance of this, after it is once attained, is an established fact. Since it would appear that Toxin Antitoxin stimulates this development, there is every reason in its favor that it will remain permanent. Direct evidence is at hand to show that this is the case.

Active immunization is established in from three to six months after the use of Toxin Antitoxin, indicated by the fact that the individual has a definitely measurable quantity of antitoxin in the

*Extract of address given at Camp of Instruction.

blood. Investigations made annually, subsequent to the establishment of this immunity, show that the individual, not only maintains his blood antitoxin content, but is increasing the amount present to each cc. This has been done for over a period of eight years. Such tests as we have been able to make in a large group of children show one hundred percent immune.

Further it is a definitely established fact that if there is an invasion of diphtheria toxin, there is a prompt response to the development of even further protection.

In the light of these two factors, that is, the constantly increasing blood antitoxin content and the prompt response of antibodies upon invasion, clearly establishes a very long continued immunity that can be limited only by the length of life of the individual. Therefore, it is fallacious in the light of these facts to say that Toxin Antitoxin immunizes for but one or two years or for that matter to limit it to any number of years.

NO ANAPHYLAXIS OR SENSITIZATION FOLLOWS THE USE OF TOXIN ANTITOXIN

Anaphylaxis is a reaction resulting in death as a rule, that is due to a lack of protection on the part of an individual to protein. In the present preparations the protein used is hardly in excess of the quantities used in making tests for sensitivity. This is never enough to cause a true anaphylactic reaction.

I have given Toxin Antitoxin to a score of individuals who have been victims of horse asthma without any alarming symptoms. The injections were surprisingly well borne by all, local reactions occurring in a few, and they varied in no way from reactions occurring in those who were not known to be susceptible to any protein. Asthmatics from other causes have not been inconvenienced by these injections either. One little child, whose extreme susceptibility to egg protein which almost resulted in its death, when it partook of this food, gave absolutely no reaction whatever to Toxin Antitoxin. Cutaneous tests for sensitivity have been made on a large series of asthmatics, and no local reactions resulted in any of them, as was expected.

That individuals are not sensitized by the use of Toxin Antitoxin is evidenced by the fact, that frequently it is necessary to use other serums shortly after Toxin Antitoxin has been used. I have found it necessary to give Tetanus Antitoxin to individuals shortly following their Toxin Antitoxin injections, and once during the course of these injections. I have given children who wished to go to summer camps, boarding schools or otherwise travel, Typhoid Vaccine, and had no reaction that could be construed as deleterious.

Diphtheria Antitoxin has been administered to individuals during the course of Toxin Antitoxin treatments and shortly after the administration of Toxin Antitoxin. No untoward effects resulted. Because of the fact that the antitoxin will neutralize the excess toxin in the Toxin Antitoxin, they should not be used simultaneously for im-

munizing purposes. I used them as above indicated, because of an intervening attack of clinical diphtheria which made it necessary to administer Antitoxin for curative purposes.

REACTION TO TOXIN ANTITOXIN INJECTIONS

Children under six years of age rarely give any constitutional reactions. I have never seen any except a slight increase in temperature and irritability for a period of about twelve hours. This might also be applied to children up to twelve years of age. From twelve years to adult life, temperature of 101 degrees F., malaise and headache occasionally occur. This whole process clears up in from twelve to twenty-four hours. The only young children that I have noticed, giving reactions such as this, were those that were particularly malnourished and debilitated by reason of extreme impoverishment and starvation.

Never have I seen a reaction to the newer Toxin Antitoxin preparation as severe as the reaction that sometimes follows the injection of Typhoid Vaccine or the other commonly used Vaccines or Sero-Bacterins.

TREATMENT OF REACTIONS

The application of warm Epsom Salts dressings to local reactions is sometimes a comfort, should the reaction prove annoying to a given individual. Constitutional reactions may be treated by the use of a laxative and an hour or two in bed. This seems to relieve all the symptoms that I have ever seen and in fact seems to be necessary only in that nervous type of individual who takes a peculiar delight in medication.

TOXIN ANTITOXIN DIFFERS FROM ANTITOXIN

Toxin Antitoxin is a mixture of Diphtheria Toxin and Diphtheria Antitoxin in minute quantities. The immunity therefrom develops in the course of a period of from three to six months. Once developed it lasts the lifetime of an individual.

Antitoxin on the other hand, by virtue of its ability to neutralize Diphtheria Toxin, will immunize immediately, but the immunity conferred is temporary, protecting for but from one week to one month. This protection is also dependent entirely upon the fact, that there is enough of the Antitoxin to neutralize all the toxin elaborated by the Diphtheria bacillus.

Antitoxin should be used, therefore, in every individual exposed directly to a case of diphtheria, whose immunity to the disease we do not know.

Toxin Antitoxin should be used, when there has been no known exposure to diphtheria, and it is desired to permanently immunize an individual. But of course it is evident that the best time to do this is in infancy, at the sixth month or after, to get the maximum benefit.

Those individuals to whom Antitoxin has been administered for protective purposes, when exposed to a case of diphtheria, may be

permanently immunized by using Toxin Antitoxin in from one to three months following the injection of antitoxin. This has been done so often with the desired results and without any evidence of sensitization that its practice is earnestly urged.

THE PROOF OF IMMUNITY

The logical way to prove whether an individual is or is not immune to diphtheria is to establish his blood antitoxin status. It is definitely known that an individual who has one-thirtieth of a unit of Diphtheria Antitoxin to each cc. of blood is immune to an ordinary attack of diphtheria. In a given individual any one of several intricate tests can be made to definitely and accurately establish this fact. There is a number of guinea pig tests either making inoculations or intracutaneous tests therein. For general use this, of course, is obviously impractical.

The Schick Test has been devised as a practical means of establishing accurately the immunity or non-immunity of an individual and is applicable to large groups of individuals at a reasonable cost and with little effort. This test does establish whether an individual is or is not susceptible to Diphtheria.

THE ACCURACY OF THE SCHICK TEST

The Schick Test is one hundred percent accurate in determining susceptibles and non-susceptibles to Diphtheria. The Schick Test of a given individual may be verified or checked up by determining the blood antitoxin content as already indicated, and in the work we have already done along this line, the Schick Test has been verified to a nicety.

The economic and practical value of the Schick Test lies in the fact, that it will eliminate the necessity for giving Toxin Antitoxin to rather large groups of non-susceptible children in the older age groups, and it checks up on the development of immunity following the use of Toxin Antitoxin when used about six months after the injections.

SHOULD THE USE OF TOXIN ANTITOXIN WITHOUT SCHICK TEST BE ENCOURAGED?

A certain group of physicians is giving Toxin Antitoxin without a preliminary Schick Test. In private practice there may or may not be an economic saving in this for the family. Certainly no harm would be done by this procedure. In dealing with large groups of children, the preliminary Schick Test is a decided economic saving. It is my rule in dealing with city children to omit the preliminary Schick Test in children between six months and three years of age because of the high percentage of susceptibles. Over three years of age I rarely omit the preliminary test.

IT SHOULD BE NOTED AND EMPHASIZED, HOWEVER, THAT NO CHILD WHO HAS BEEN GIVEN TOXIN ANTITOXIN MAY BE DECLARED IMMUNE, UNTIL A SUBSEQUENT SCHICK TEST HAS VERIFIED THE IMMUNITY, THE TEST BEING MADE SIX MONTHS FOLLOWING THE INJECTION.

It has been our experience in dealing with large groups of children, as before stated, that 2.5 percent will still be susceptible following the use of Toxin Antitoxin. This small group will become immunized by giving a second set of injections of Toxin Antitoxin in practically one hundred percent of cases. The reinjections have failed to immunize but two individuals in my experience in dealing with over twenty-five thousand cases personally, and fifteen thousand more under my supervision. One of these individuals, whom I failed to immunize with two sets of injections and who gave me subsequent positive Schick reactions, developed a moderately severe attack of diphtheria upon exposure.

While the preliminary Schick Test may be ignored in the child under three years of age routinely and upon occasion up to six or eight years of age, it is highly desirable over that age and in adults it should never be omitted. **THE TEST GIVEN SUBSEQUENT TO TOXIN ANTITOXIN INJECTIONS MUST NEVER BE OMITTED.**

IMMUNITY AND DIRECT EXPOSURE TO DIPHTHERIA

Any individual who has a negative Schick Test properly performed need have no fear of contracting diphtheria upon exposure thereto. This applies to both those who have a negative Schick Test without prior Toxin Antitoxin injections and those who have had the injections with a subsequent negative test.

Any individual who has never been tested or who has been tested without a negative result should be regarded potentially as a susceptible and treated as such. All such individuals upon direct exposure should be given Diphtheria Antitoxin.

The incubation period for diphtheria is a few hours to five days. It is therefore foolhardy, unwise, dangerous to the health of individuals and without advantage to await the result of Schick Testing following direct exposure to the disease before immunization. It is equally silly to wait for the result of a culture before immunizing an individual with Antitoxin under these conditions. Clinical Diphtheria is too serious a matter and may have too long a headway before the report of the culture is known, and this may be misleading in twenty percent of instances at least.

CLINICAL DIPHTHERIA AFFORDS NO IMMUNITY

Despite a popular notion that an attack of diphtheria immunizes an individual against subsequent attacks, every evidence points to and proves the contrary to be true, that is, individuals are not so immunized. The reason is, the toxin in Toxin Antitoxin, if it be the toxin itself that stimulates immunity, and I believe evidence points that way, is due to its infinitesimal amount that stimulates cells. The overwhelming amount of toxin present in clinical Diphtheria destroys and renders inert cells that might otherwise be so stimulated. This accounts for the frequency with which susceptible individuals have second, third, and even fourth attacks of diphtheria.

THE ANATOMIST'S ODE TO THE LADY

1. I list as thy heart and ascending aorta
Their volumes of valvular harmony pour,
And my soul from that music has caught
A new life mid its dry anatomical lore.

2. O rare is the sound when thy ventricles throb
In systolic symphony measured and slow,
While thy auricles answer with rhythmical sob,
As they murmur a melody wondrously low.

3. O sweet is thy voice as it sighingly swells
From thy daintily quivering chorda vocales,
Or rings in clear tones through the echoing cells
Of thy antrum, thy ethmoid and sinus frontales.

4. O thy cornea, love, has the radiant light
Of the sparkles that laugh in the icicles sheen,
And thy crystalline lens like a diamond bright,
Through the delicate frame of thine iris is seen.

5. And thy retina spreading its luster of pearl,
Like a far away nebula, distantly gleams
From a vault of black cellular mirrors that hurl
From their hexagon angles their silvery beams.

6. Oh! the flash of those orbs is enslaving me still,
As they roll 'neath their palpebræ dimly translucent,
Obeying in silence the magical will
Of the oculo-motor, pathetic, abducens.

7. But, alas! 'tis with many forebodings I pen
Anatomical verses thy beauty to praise,
For I fear me, my studies will never again
Bring the solace they did in my happier days.

8. Thou hast stolen the charm from my studio dim,
From dissection I turn with embittering wrath.
Thou hast stepped betwixt me and my skelton grim,
Ah, lady! fair lady! why crossed ye my path?

COMMUNICABLE DISEASES REQUIRING EX

EXCLUSION FROM SCHOOL (Public, private, Parochial, Sunday and other school).		MINIMUM QUARANTINE PERIOD	DISEASE. Medical Inspectors required to issue morbidity report to Health Office for diseases marked (*).
CONTACTS (Unaffiliated children in household.)	PATIENT		
Until Health Officer's certificate of release from quarantine is presented. (Children known to have had Chicken Pox, Measles, G. Measles, Mumps and Whooping Cough may, on Health Officer's permit, continue school attendance from premises quarantined for same disease.) (a)	Until recovery, and Health Officer's release from quarantine is presented.	During Illness.	*Cerebrospinal, Meningitis (<i>epidemic</i> (<i>Cerebrospinal fever, spotted fever</i>).
			*Relapsing fever.
		16 days.	*Chicken Pox.
		16 days. 16 days.	*Measles.† *German Measles.†
		21 days.	*Mumps.
		28 days.	*Whooping Cough.†
		21 days. (b & e)	*Diphtheria. <i>Diphtheria and membranous croup</i> <i>putrid sore throat.</i> †
		30 days.	*Smallpox. (<i>Variola, varioloid</i>).
		30 days. (d)	*Scarlet Fever. (<i>Scarletina, scarlet rash</i>).†
		21 days.	*Anterior Poliomyelitis (<i>acute</i>) (<i>Infantile Paralysis</i>).
Exclusion of unaffiliated children in same household not required.	Until certified by a Physician as incapable of transmitting the disease.	During Illness.	*Typhoid Fever. (<i>Paratyphoid</i>).
		Premises not quarantined.	*Tuberculosis of Lungs (<i>Active</i>). (<i>See Sec. 1509 School Code</i>). *Uncinariasis (<i>Hook Worm Disease</i>). *Trachoma (<i>Granular eye lids</i>).† Acute Conjunctivitis (<i>Pink eye</i>).† Tonsillitis.† *Erysipelas.† Scabies (<i>itch</i>).† *Impetigo Contagiosa (<i>pustular Infection of skin</i>).† Ringworm (<i>Tinea Circinata</i>).† Fayus. (<i>Crustaceous skin disease</i>). *Lupus (<i>Tuberculosis of the skin</i>).† Head Lice. Body Lice.

EXCLUSION OF PUPILS FROM SCHOOL

REMOVAL OF CONTACTS FROM INFECTED PREMISES

Non-immune contacts after taking a disinfecting bath and putting on clothing not exposed to infection may remove to premises occupied by adults or immune children and be

ADMITTED TO SCHOOL UNDER THE FOLLOWING CONDITIONS

After fourteen (14) days.

After ten (10) days.

After sixteen (16) days. (a)

After fourteen (14) days. (a)

After twenty-one (21) days. (a)

After fourteen (14) days. (a)

Immunizing dose of antitoxin administered. Admit to school after five (5) days. In cities having laboratory facilities two negative cultures shall be required before admission.

Not permitted to remove from quarantined premises.

Ten (10) days later admit to school. If immune by virtue of a former attack may be admitted to school next day.

After fourteen (14) days.

(a) In case of Chicken Pox, Measles, G. Measles, Mumps, and Whooping Cough children who are immune by virtue of a former attack as shown by records of the Health Authorities, may attend school from quarantined premises on permit issued by the Health Officer.

(b) Quarantine to continue five (5) days after death or removal of patient except as provided under (c).

(c) Provided, "That if antitoxin has been used for curative purposes for the patient and for the immunizing of all of the inmates of the premises and two negative bacteriological cultures have been secured from the diseased area of each patient on the premises for two consecutive days, the minimum period of quarantine may be 14 days."

(d) Quarantine to continue ten (10) days after death or removal of patient if susceptible person in household.

(*) Inspectors required to issue morbidity report to Health Officer.

(†) Teachers or Principals required to exclude *pupils showing symptoms of disease, using blank Form 43, and to report at once to Health Officer. (Sec. VII Reg. Dept. of Health, Sept. 21, 1923 and Act, June 28, 1923.) Children thus excluded can be readmitted only upon presentation of a Physician's certificate (Board of Health Physician in Boros having B. of H.) stating that they are free from any contagious or infectious disease or condition, or after quarantine, upon the Health Officer's certificate of release from quarantine.

*In School districts of the Second and Third Class pupils shall immediately be referred to the School Medical Inspector and readmitted only on his certificate. Form 43 not required in these districts.

Exclusions due to contagious disease must be entered on Health Record, Form 92.

The Teacher must notify the Attendance Officer if pupils who are excluded on suspicion of contagious disease do not forward Physician's report within 48 hours.

THE NURSE, AN ESSENTIAL FACTOR IN THE SCHOOL HEALTH SERVICE

By

JOHN G. ZIEGLER, Supervisor,
School Sanitation, Department of Health.

Medical inspection of schools is today universally recognized as essential to the welfare of community and state. The first general medical inspection in Pennsylvania, which was made in 1913, met with considerable opposition in the rural districts, but the results obtained demonstrated to the public, the value of the service, and opposition was changed to enthusiastic approval. Now local communities are petitioning the Department of Health for medical inspection.

It is the function of the school physician or health supervisor to detect and point out defects requiring treatment and correction and to exercise general health supervision in the schools for the control of communicable disease. He represents the Department of Health, because the school health service is a part of the public health service.

There has at times been certain agitation in favor of placing the school health service under the control of the State Department of Education. This proposition is not based on principles of sound economy.

Since the responsibility for the health of all the people of the State rests with the Department of Health, it is not logical that for a period of eleven or twelve years, between the ages of six to sixteen, a Bureau entirely apart from the Department of Health should exercise health supervision over the youth of the State, whose health problems at the end of that period must again revert to the Health Department.

The school health service has opened an interesting and ever-increasing field of service for the graduate nurse. Health service in the schools cannot be considered as complete, when it merely points out to parents that their children have certain defects which should be remedied. It is needful that this information be systematically followed up, until treatment and correction of defects are actually secured. Herein lies the field of the school nurse.

The value of the school health service to any community can be measured only in the results obtained, as shown by the treatment and correction of the defects reported by the School Medical Inspector.

In the fourth class school districts of the Commonwealth with practically no nursing service available, the Medical Inspectors, under the direction of the State Department of Health, have during the last five years annually inspected from 490,000 to 550,000 school children. Of these an average of 360,000 has annually been reported with defects for which treatment was advised.

The reports made by teachers to the Department of Health at the close of the school term show, that annually about 80,000 school

children in the rural districts of Pennsylvania were given treatment for defects reported. This is good, but it represents only from 20 to 25% of the pupils recommended for treatment.

In districts where school nurses are employed to follow up the work of the Medical Inspector, the percentage of treated pupils runs from 45 to 80%—thus proving the value of the school nurse in the school health service.

The School Code provides that any School Board may employ one or more school nurses, who shall be graduates of reputable training schools for nurses, and in the appointment of State appropriation to school districts, a district employing school nurses will receive an additional allotment of appropriation for each school nurse employed, in amount equal to the amount apportioned for each teacher.

The school nurse should act as assistant to the Medical Inspector in examining the pupils, and thus receive direct information from the Medical Inspector on all cases requiring treatment and be better able to give advice to the parents of these children, and to carry out for them, while in school, any instructions given by the Medical Inspector for the improvement of their physical condition.

She should familiarize herself with the Pupils' Health Record Cards (form 92), provided by the Department of Health for all schools, should see that the complete physical record is entered by making them herself or by supervising the work of the teacher, should stress the importance of entering on these record cards the dates when any of the pupils have been excluded on account of contagious disease. She can see that every child is properly examined for vaccination scars, and that the Medical Inspector enters on the Health Record Card his signature in confirmation of all scars of successful vaccination, and that certificates of exclusion, Form 78, are issued to all whom the Inspector finds not having a plainly visible scar or cicatrix of successful vaccination. She can check up on the teacher and assure herself that at the end of the ten day period allowed for vaccination, exclusion will be enforced, if the child be not properly vaccinated.

After the work of the Medical Inspector is completed and the notices from the Department of Health recommending treatment have been delivered to parents, follows the work of visiting the homes of the children who most urgently need treatment and are not receiving it. In her visits to the families, considerable tact must be displayed on the part of the nurse to convince parents, that the so-called slight defects of childhood require the attention of a physician. The importance of personal hygiene should be dwelt upon. Proper care of the teeth of children with the daily use of the tooth brush should be especially urged.

If the school nurse should study the scholastic record of the various pupils as contained on the Health Record Cards, pick out the children who are making slow progress in their studies and by the examination of the physical record contained on the same card, she may often find a cause for the backwardness, and by securing the

elimination or correction of physical defects, may remove for the child the apparent mental handicap.

Her services in the school room are invaluable in detecting evidence of incipient contagious disease. If in cities or boroughs having the continual service of a school physician, such cases should at once be referred to him for positive diagnosis, and will be excluded by him if found to be cases of contagious disease, with the issue of the proper morbidity report to the Health Officer. In cities, boroughs or first class townships not having the service of a school physician available daily, the teacher or school nurse is required under the Provisions of the Act of July 17, 1919, to temporarily exclude such children and at once refer them to the Board of Health physician. Children thus excluded cannot be readmitted, until they present a certificate signed by the Board of Health physician certifying that they have been examined by him and are not suffering from a contagious or communicable disease. On the other hand, if the disease be contagious, the Board of Health physician notifies the teacher of this fact, and such cases cannot be readmitted to school, until they present the health officer's certificate of release from quarantine. A sample form of temporary exclusion notice for use in such cities, boroughs or first class townships is provided by the State Department of Health, containing on the reverse of the notice a proper certificate to be filled out by the Board of Health physician.

In the townships of the second class (rural districts), cases of this character are handled in a similar manner, but as there is no board of health in such districts, the children are referred to the family physician. Form 43 is furnished free to all teachers in these townships for such temporary exclusions. The school nurse, if working in a district of this class, should see that all teachers are properly instructed in reference to their duty under the law, in regard to excluding children showing symptoms suggestive of communicable disease. The school nurse will often be called upon to render first aid in emergency cases occurring in schools. In the more serious cases, she should see that the child is taken home or to the family physician.

In special cases requiring treatment, with the permission of the parent or guardian, she will accompany school children to the hospital, dispensary, family physician, oculist, or dentist and may assist in carrying out such treatment as may be prescribed. After a child has been taken to the physician for treatment, the school nurse may render valuable service by continuing visits to the family if necessary, or by supervision in school to determine whether the treatment recommended is being carried out.

The school nurse should, from time to time, meet with the teachers in conference and instruct them along practical health lines.

She should visit the families of pupils absent without reasonable excuse. In this way she may often discover cases of communicable disease that have not been reported to the health authorities and are not under quarantine.

Her immediate report to the health authorities of all such cases may prevent the spread of disease, avoid loss of school attendance on the part of scores of other children and save hundreds of dollars to a community.

The school nurse should carefully observe the operation of heating and ventilating systems and note that school rooms, halls, cloak rooms and toilets are kept in a clean and healthful condition, always bearing in mind that sanitation does not depend on the amount of disinfectant used, but rather upon the amount of soap and water frequently and energetically applied, plus plenty of fresh air and sunshine admitted into all rooms.

School janitors often have little knowledge of the principles of ventilation and feel that their full duties are discharged, when they keep the temperature of the school room at seventy degrees during school hours. The nurse when visiting a school building should satisfy herself that the fresh air intakes to the indirect heating system are always open during school hours, that large buildings are provided with a fan system of ventilation which is operated continuously while school is in session.

Her influence with the Board of School Directors may often assist the State Department of Health in securing improvements of school conditions, such as the remodeling of buildings, better lighting, the installation of adjustable and hygienic desks, facilities for washing hands, paper towels and individual drinking cups.

She may be instrumental in the organization of Parent-Teachers' Associations, Civic Leagues, etc., and through such organizations awaken a cooperative and progressive community spirit in the interests of modern hygienic school conditions.

In short the school nurse forms the most valuable connecting link between the School Medical Inspector and the school authorities, for no school health service can produce the best results, unless there be the closest cooperation between all the factors in that service and the school authorities.

HOW TO ORGANIZE A HEALTH CAMPAIGN

By

DR. WILLIAM C. MILLER, Director,
Bureau of Public Health Education.

In the matter of organization, be it for Health work or anything else, no hard and fast rules may be laid down, because of the varying conditions in different localities. Therefore, the suggestions made here are to be taken as generalities to be modified to suit individual need.

In order to make a basic start, let us assume the town we are about to deal with to have a population of 10,000. The average municipality of that size has paved streets, sewers, water, gas, electricity and the other usual advantages that make up for comfort and enjoyment, but the health conditions perhaps might be improved upon. So a group of progressive citizens decide to hold a health

rally. The first thing for them to determine is the point of attack. Shall it be in the interest of child health, tuberculosis, quarantine enforcement, fly extermination or what?

The State Department of Health, Anti-Tuberculosis Societies and other organizations have for many years been waging an aggressive warfare against tuberculosis. The death rate of this disease has been cut in two during the past fifteen years. With such an enemy on the run, it is no time to call an armistice, so we will take an Anti-Tuberculosis Campaign for the example. First, what may be accomplished by such a campaign? The answer is: the prevention of new cases of tuberculosis in the town, the discovery of unsuspected cases and proper treatment for known cases which have been neglected.

This means the enlistment of willing physicians, the organization of a clinic, the establishment of a nursing service and a continuous system of follow up. It is a big job and, unless pushed to completion, might just as well not be started. If the prime movers be members of an organized society, which is willing to back the movement, the campaign will open with greater impetus.

In order to make the work a success, there are several things imperative; there must be enthusiastic and untiring workers, there must be money, public cooperation and especially in the inner circle of management, there must be harmony of action.

Now for organization; the "What Not" Club concludes that a Health Campaign should be put on and decides to stress Tuberculosis.

They appoint a small committee—a large committee sits, but doesn't work; a small committee, if of the right kind of personnel, works and never sits.

This small committee, without delay, outlines the plan to the municipal authorities, which include the Burgess, the Council and Board of Health and, after having obtained official endorsement, asks every organized society in the town, including churches and schools, to appoint a representative to meet with the original committee to form a general committee for the consummation of the project.

When the general committee meets, it should elect a Chairman. Courtesy would suggest the Chairman (and this may mean "woman") should be from the organization or society which originated the movement, not overlooking that the Chairman should be chosen with regard to executive ability.

The Chairman should appoint the following committees (and again they should be small):

Executive
Publicity
Programme
Finance

The Chairman is, ex officio, Chairman of the Executive Committee and all other Committees should report to it. After the time and

headquarters have been agreed upon, the committees assume their respective duties.

The Publicity Committee, as the name implies, has for its function the spreading of propaganda. The local newspapers will invariably be found to lend their columns. The schools, public, parochial and Sunday schools are willing agents and the pulpit by announcement can be of inestimable help.

In addition, posters or hand bills may be distributed.

The Programme Committee has an important part and upon its efficiency depends the success of the campaign.

It would be to advantage to communicate early with the State Department of Health setting forth the plan of arrangements. The State is usually able to provide motion pictures, lantern slides, speakers, etc.

The headquarters or place of meeting should be centrally located, large enough to accommodate a good crowd. It should be provided with plenty of chairs, a platform large enough to seat at least a half dozen persons aside from the speaker. A silvered screen at least 6' x 8' should be erected at the back of the speaker's stand and as high as the arrangement of the room will permit.

At the rear of the room is placed the stereopticon and motion picture projection apparatus, the latter in an asbestos booth. If there be room, booths for exhibits may be erected at one or both sides of the room. (Exhibits are discussed elsewhere in this number.) A piano and pianist are necessary. Slips or folders containing popular songs may be obtained at a nominal cost and should be circulated at each meeting. There should be plenty of singing in the programme.

The campaign should open on Monday evening at the popular local hour and close on the following Friday evening. Afternoon meetings may be held, if desired.

Each meeting should stress some particular feature of the campaign and should be presided over by a prominent citizen of the town. The Monday evening meeting, for instance, may be advertised as being under the auspices of the "Pennsylvania Society for the Prevention of Tuberculosis," the "Red Cross," or some other such organization and the presiding officer should be from its membership.

The subject for the evening might be: "Dangers to Babies from Tuberculosis and How to Prevent Them." The speakers of the evening should confine themselves strictly to this subject and no speech should be longer than twenty minutes; appropriate motion pictures may be shown. A short children's play will add zest to the programme, and incidentally numbers to the audience. It would be well to have three or four, five minute addresses by local speakers. At the close of the meeting twenty minutes should be allowed for questions and answers. Other sessions should be conducted along similar lines.

The following subjects are suggested:

Malnutrition and Its Relation to Tuberculosis
 How Tuberculosis is Contracted
 The Need for Tuberculosis Clinics
 State Tuberculosis Sanatoria
 The Visiting Nurse and Tuberculosis
 Why We should have a Visiting Nurse
 Periodical Health Examinations

The last evening of the meeting should be appointed as the time for permanent organization. If nothing has been accomplished except talk, the week has not been a success.

The object at the beginning was to improve conditions in the town so far as Tuberculosis was concerned. It takes real work to do this.

The week's rally will have been a success, if at the final meeting, it shall have been decided to establish a local clinic, to be opened one, two, or more days during each week; if arrangements have been made with qualified physicians to take charge of such clinic; if arrangements have been made for the regular employment of a visiting nurse, whose duty shall be to attend the sessions of the clinic, to visit the homes of indigent tuberculous patients and to ferret out new cases for the clinic.

It is expected that the enthusiasm for the promotion of these things be generated by the programme committee. For the money which is necessary to carry them on, the finance committee is expected to be responsible.

Assuming that the programme committee has performed its duty, and it has been agreed upon to establish a clinic, the next step should be to establish an intimate connection with the State Department of Health, so that the clinic will be officially recognized and its patients may have easy access to the State Tuberculosis Sanatoria.

As to the means by which the finance committee may obtain the funds necessary to carry on the project, they are legion and the determination of method must depend largely upon local customs or conditions.

In one town it may be that private subscription is the better method. In another the municipal authorities may decide to make a liberal donation. Tag days, while somewhat overworked, are still effective in many places. Health Tax Day has been a good revenue producer in a number of instances. The method of putting on a Health Tax Day is something like this: taking advantage of newspapers, posters, public announcements and every obtainable kind of advertising medium, to the fact that a specified day will be Health Tax Day. Propaganda is issued, setting forth that you pay so much poll tax, so much school tax, so much dog tax, etc., but you pay no health tax. How much is health protection worth to you? Etc., etc., etc. Then on the day the health tax is to be collected, the Ladies' Brigade of Health Workers will be stationed at prominent parts of the town to collect said tax. They will give as a receipt for payment of health tax, usually, a carnation. The amount of tax paid is voluntary with the individual.

In order that the Health Clinic may be an entire success in a town of 10,000 people, it is necessary that the finance committee raise about two thousand dollars. This will cover the salary of the nurse, the rental for the clinic and other incidental expenses unavoidably accrued.

COMMUNICABLE DISEASES IN PENNSYLVANIA AUGUST, 1924

By

DR. WILMER R. BATT, Director,
Bureau of Vital Statistics.

A total of 3,983 cases of communicable diseases was reported for the month of August 1924, a decrease of 2,053 as compared with the month of July, urban cases having decreased 1,875 and rural 178. The percentage of decrease in urban districts was more than double that in rural districts.

The diseases indicated decreased as follows:

Measles	781
Scarlet fever	218
Diphtheria	102
Whooping cough	103
Smallpox	46

Diseases showing an increase were Typhoid fever with 135 more cases than July and Anterior poliomyelitis with an excess of 32.

Diphtheria occurred in fifty-three counties of the State, Scarlet fever in fifty-one and Typhoid fever in fifty-two. Eleven counties had a single case each of Typhoid fever. Of the increase of 135 in Typhoid fever urban cases contributed 109 and rural 26. The rate per 100,000 of population for Typhoid fever for urban districts was 3.53 as compared with 1.85 in July, and the rural rate was 3.31 as compared with 2.33 in July.

Thirty cases of Smallpox reported for August included 23 urban and 7 rural, located as follows:

<i>Urban</i>		<i>Rural</i>	
<i>Locality—County</i>	<i>County</i>	<i>County</i>	
Pittsburgh, Allegheny,	14	Allegheny,	1
Barnesboro, Cambria,	1	Butler,	1
Gallitzin, Cambria,	1	Cambria,	3
Johnstown, Cambria,	1	Carbon,	1
Punxsutawney, Jefferson,	2	Greene,	1
Philadelphia, Philadelphia,	1		
Palo Alto, Schuylkill,	2		
Washington, Washington,	1		

As compared with July there was an increase of 32 cases in Anterior poliomyelitis. The 43 cases reported for August included 25 urban and 18 rural, located as follows:

<i>Urban</i>		<i>Rural</i>	
<i>Locality—County</i>	<i>County</i>	<i>County</i>	
Pittsburgh, Allegheny,	2	Blair,	1
Woodbury, Bedford,	1	Bradford,	1
Altoona, Blair,	4	Butler,	1
Bristol, Bucks,	1	Cambria,	1
Johnstown, Cambria,	1	Columbia,	6

<i>Urban</i>	<i>County</i>	<i>Rural</i>	<i>County</i>
Benton, Columbia,	1	Indiana,	1
Centralia, Columbia,	1	Lancaster,	4
Elizabethville, Dauphin,	1	Lehigh,	1
Erie, Erie,	4	Lycoming,	1
New Castle, Lawrence,	1	Warren,	1
Allentown, Lehigh,	1		
Hazleton, Luzerne,	1		
Williamsport, Lycoming,	2		
Philadelphia, Philadelphia,	2		
Monessen, Westmoreland,	1		
West York, York,	1		

There were three cases of Encephalitis, the same number as for July:

<i>Urban</i>	<i>County</i>
Philadelphia, Philadelphia,	2
Pittsburgh, Allegheny,	1

Diseases reported for August, urban and rural, and a comparison with the corresponding month of 1923 are as follows:

	Total		Urban		Rural	
	Aug. 1924	Aug. 1923	Aug. 1924	Aug. 1923	Aug. 1924	Aug. 1923
All diseases	3,983	3,953	3,100	2,923	883	1,030
Anterior poliomyelitis	43	23	25	18	18	5
Anthrax	0	2	0	2	0	0
Cerebrospinal meningitis	5	14	5	11	0	3
Chickenpox	169	153	126	104	43	49
Diphtheria	531	786	418	577	113	209
Epidemic dysentery	1	0	0	0	1	0
Erysipelas	21	26	19	23	2	3
German measles	27	9	16	5	11	4
Malarial fever	5	3	1	3	4	0
Measles	274	400	144	202	130	194
Mumps	279	102	195	70	84	32
Pellagra	3	1	2	1	1	0
Pneumonia (true)	64	169	59	161	5	8
Puerperal fever	11	3	11	3	0	0
Scarlet fever	375	416	238	264	137	152
Smallpox	30	6	23	6	7	0
Tetanus	4	5	1	4	3	1
Trachoma	2	2	2	2	0	0
Tuberculosis	518	459	486	432	32	27
Typhoid fever	317	321	229	181	88	140
Whooping cough	1,280	1,040	1,077	842	203	198
Impetigo	10	7	9	7	1	0
Scabies	0	1	0	0	0	1
Ophthalmia	10	4	10	4	0	0
Syphilis	1	0	1	0	0	0
Encephalitis	3	1	3	1	0	0

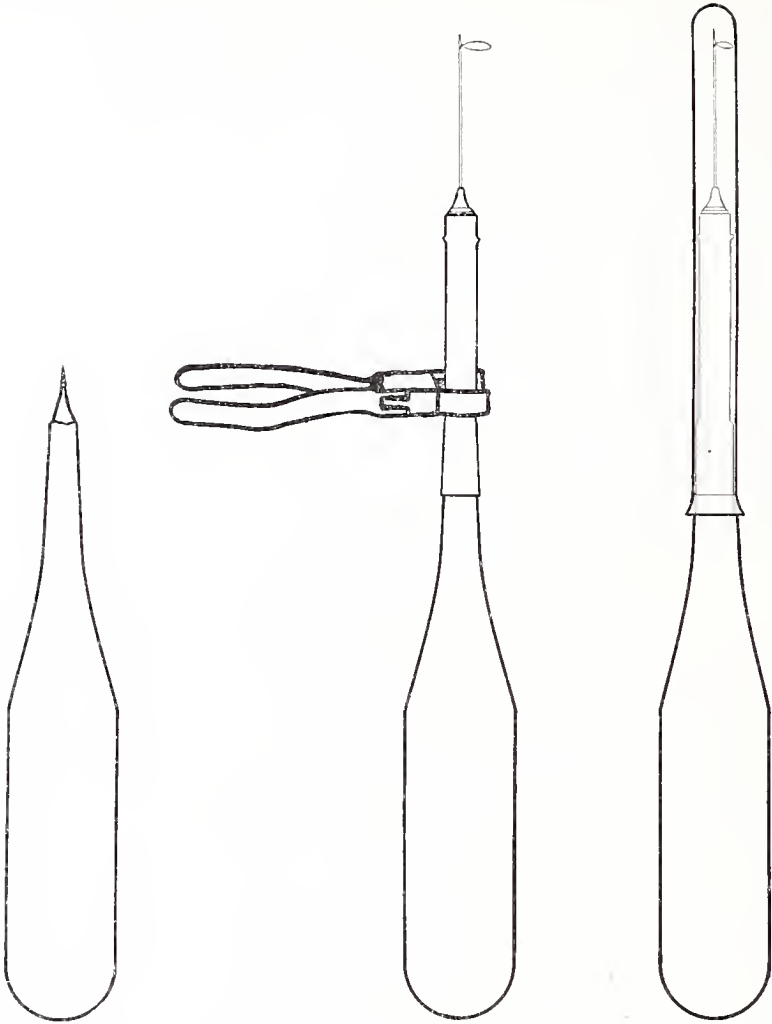
DEPARTMENT NOTES

During the month of September, in addition to the regular routine work of the State Laboratory, 3,000 Wassermann tests were made. The ratio of positive findings in this number of tests was about 7 percent.

The Bureau of Laboratories will be ready to do blood chemistry work about October 15th. Special containers for taking specimens have been prepared.

In the illustration the large bulb which is sealed at the small end contains a vacuum. The tightly fitting rubber tube is placed over the sealed end of the bulb; in the other end of the tube is a hypodermic needle. After the needle is plunged into the vein, the sealed end of the vacuum bulb within the rubber tube is crushed with a pair of artery forceps. The bulb which has a capacity of 15 cc. will readily take up at least 14cc. of blood.

OUTFIT FOR TAKING BLOOD SPECIMENS



The vacuum bulb contains an antiseptic mixture of thymol and sodium fluoride, which will be sufficient to preserve the blood until it reaches the laboratory. Application for outfits for taking blood chemistry specimens should be made to Mr. Roy G. Miller, Chief, Division of Supplies.

The Pennsylvania Department of Health, through its Bureau of Vital Statistics and with the cooperation of the United States Bureau of the Census, is now sending certificates of birth of all children born in Pennsylvania. These certificates advise that there is preserved under File No. — in the State Office for registration of vital statistics at Harrisburg, a record of birth, as follows: there is given the name and sex of infant together with the date and place of birth, also the name of father and mother.

These certificates should be carefully preserved as records which may prove valuable in future years. They will be accepted by school authorities as evidence of child's age and for all purposes connected with obtaining employment.

Dr. Elizabeth Allison of Belleville, Mifflin County, has been appointed a Medical Supervisor of the School Division. Dr. Allison entered upon the duties of her office October 1st. Her work will be mainly field supervision of medical inspection work in second, third and fourth class school districts. In this capacity, she will visit the various school districts throughout the State, investigating the methods of medical inspection and follow-up work in such districts and secure the proper compliance with the standard requirements for medical inspection issued by the Secretary of Health.

Dr. Allison comes to the Department with considerable experience, having formerly done medical inspection work in the State Normal Schools of Wisconsin as a representative of the Wisconsin State Board of Education.

List of towns and counties employing Dental Hygienists:

Allentown—4	Mahanoy Township
Allentown State Hospital—1	Lewistown
Altoona—6	Pottsville
Bucks County	Philadelphia—2
Bradford County—2	Reading—3
Columbia County	Hamburg
Philipsburg	Scranton—3
Chester County	Tioga County
West Chester	Uniontown—2
Chambersburg	Warren City
Easton	Warren County
Danville—2	Washington County
Grove City	Wilkes-Barre—2
Harrisburg	York
Enola	Bradford City (McKean County)
Meadville	Collegeville & L. Providence Township
New Castle	Indiana
Lawrence County	Turtle Creek
Norristown	Clairton
Upper Darby	Braddock
Johnstown—4	Munhall
Shamokin	Duquesne
Elizabethville & Upper Dauphin County	Kane
Sewickley	McKeesport
Palmerton	Newport & Perry County
Meadville	Lebanon
Shenandoah	Cresson—2

The establishment of a State Chest Clinic for Berwick, Pennsylvania, is now assured. For the present the clinic will have one weekly session of one hour's duration.

The local Red Cross organization is cooperating with the clinic by furnishing suitable quarters and providing the services of their two nurses, Miss Dumphy and Miss Frey.

Dr. H. S. Buckingham, School Health Inspector, will be in charge of the Medical work.

Mr. Ernest Muster, President of both the local Tuberculosis Society and the Red Cross organization, has been untiring in his efforts for the opening of the Clinic; and through his fine leadership many of the city's best citizens and agencies are giving their sympathy and support to the movement.

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THE BRIDGE BUILDER

An old man traveling a lone highway,
Came at the evening cold and gray
To a chasm deep and wide.
The old man crossed in the twilight dim,
For the sullen stream held no fear for him.
But he turned when he reached the other side,
And builded a bridge to span the tide.

"Old man," cries a fellow pilgrim near,
"You are wasting your strength with building here.
Your journey will end with the closing day
And you never again will pass this way.
You have crossed the chasm deep and wide,
Why build a bridge at eventide?"

And the builder raised his old gray head,
"Good friend, on the path I have come," he said,
"There followeth after me today
A youth whose feet will pass this way.
This stream which has been naught to me,
To that fair-haired boy may a pitfall be.
He, too, must cross in the twilight dim,
Good friend, I am building this bridge for him."

—*Nation's Business.*



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THE HUMAN COMPONENT

By

DR. WILLIAM C. MILLER, Director,

Bureau of Public Health Education.

The tiniest drop of water is a world to the amoeba, which is about the smallest known animal in existence. It may be seen and studied under a high power microscope, but it would be impossible to accurately describe it, because it is constantly changing its shape. One moment it will appear to be globular, the next it will be flattened out; it may be oblong or it may assume irregular outlines. It is composed of a jelly-like substance, called protoplasm. When it wishes to move from place to place, it pushes forth a tiny arm which gradually enlarges as the body substance of the animal pours into it. In a short time the new made arm will have absorbed the entire body and the amoeba will occupy a new position.

It has no mouth, but when it wishes to take food it wraps itself around its prey, enclosing it upon every side. It has no organs of digestion, but it is able to take from its food what it needs and to get rid of the rest. It appears to be able to recognize its friends and its enemies. It has the power of reproduction, which is accomplished by dividing itself into two distinct bodies, each in all respects like the parent body.

The human body is composed of myriads of such protoplasmic bodies, each having a separate and distinct life of its own.

A great many years ago, when this country was sparsely inhabited, and settlers were many miles apart, each family was of necessity dependent upon itself for all things. If they wished to have bread, they must plow, sow, reap, winnow, grind and bake. If they wished to have shoes or moccasins, they must kill, flay, tan, pattern and sew. If they wished to have cloth, they must shear, spin and weave, and each family provided its own means for protection against enemies.

Then after a while, when the population increased and people began to congregate in the towns and cities, a new order of things came about. They found out that, if an individual devoted all his time to one particular thing, he was able to do that one thing better than he was able to do it, when he was doing other things as well, and so people began to specialize. One man said, "I will bake your bread," and he devoted his entire time to baking bread. His bread was so much better than other people's, that they all bought their bread from him. After a while, the others almost forgot how to bake bread. But, while the baker excelled in making bread, he had forgotten how to make shoes and had to call upon the man who specialized in this branch of work for his footwear; and while the shoemaker could make excellent shoes, he had forgotten how to make clothes and must of necessity patronize the tailor; and so the community, while it was still performing the same things which the family practiced in its isolated home, because it specialized, it did all these things better. The families which made up the community were now no longer independent, they were interdependent. With the growth of population came increased needs, and as industries and specialties multiplied, representatives of different specialties banded themselves together as organizations for mutual benefit and protection. When, as it sometimes occurred, conditions arose which were unsatisfactory to one of these organizations, they declared a strike and all individuals associated with that particular group stopped work. Dependent upon the importance of the group, the whole community suffered.

The human body may be compared to such a community. The amoeba-like bodies which make up the human structure, on account of their location and uses, have all become more or less differentiated or specialized. Some of them from their location and uses have lost to a great degree the sensitiveness which characterizes the primitive amoeba and have ranged themselves, closely packed, side by side as the protecting covering of the body, the skin. Others appear to have cultivated sensitiveness to an exaggerated degree and as they touch each other with their delicate filaments, they convey messages throughout the body. These specialists are called nerves. Certain others have developed the sensibility to light and so we are able to see. Some of these bodies are grouped together to perform certain functions, they are the specially skilled laborers and make up the organs of the body, as the liver, the kidneys, the lungs, etc. Then there are the common laborers which make up the muscles, the bones, the hair and teeth. Floating freely in the blood stream and patrolling every passage way and channel in the body are the ever alert, white blood corpuscles, the policemen of the body, always on the watch for enemies from without. If, as it sometimes happens, some specialized group becomes offended, either because of extraordinary tasks which have been imposed upon them, or because of irritating substances which have been forced upon them, or for other reasons, they make known their displeasure in a manner very similar to the organized trade unions—they strike, either all or in part, and the whole body suffers in proportion to the importance of the organ. These organic strikes are sometimes controlled completely, sometimes only partially and are frequently followed by sympathetic

strikes from other organs. However highly differentiated or specialized these amoeba-like bodies may be, they all have three common characteristics of the primitive amoeba, they live, they feed and they reproduce.

In the human structure these bodies have been termed cells and are so named because, when looked at under high magnification, they present the appearance of the cells of the honeycomb. Many of these cells are fixed and unable to move about in search of their food like the amoeba of the sea, and so nature has provided a wonderful way by which food may be brought to them. Circulating at all times throughout the body, bathing the cells in its every part, is the blood, almost as highly impregnated with salt as the medium in which the original amoeba has its home, which carries through channels prepared for its passage food for the different cells. Just as two trees which stand side by side, rooted in the same soil, watered by the same rain, fanned by the same air, and kissed by the same sunshine, may bring forth, one a fragrant fruit and the other a bitter nut, because it has been ordained from the beginning that each shall have the power of selection to take from the elements around it the things which it needs for its own nourishment and reject the rest; so the cells of the human body are endowed with this same power of selection which permits each to take from the nutrient blood the particular kind of food which its differentiated state requires and to reject the rest.

Crowding each other in the bloodstream are myriads of disk-like free cells, called red blood corpuscles, each bearing a little particle of oxygen which it has absorbed during its passage through the lungs and, before any working cell can assimilate its modicum of food, a combination is necessary between the cell, the food and oxygen, which is carried by the free cell. If food and oxygen be present in proper proportion, the combination will be effected and strength will be produced. Energy will be produced. But if for any reason, there be an insufficient supply of food or oxygen, the combination will be incomplete or will fail altogether. The blood flows on and the cell goes hungry.

As a result of cell activity, a certain waste is produced. This consists largely of carbonic acid gas which is poisonous to the tissues and must be gotten rid of as rapidly as possible. It is absorbed by the liquid portion of the blood and carried by it to the lungs for elimination. The vessels through which the blood is carried to the cells are called arteries. At the head of the arterial system is the constantly working heart, which pounding and pumping forces the blood to the tissues under considerable pressure. But after it has performed its work of feeding the cells and gathering up the waste, it seeps into lax and flaccid veins and creeps sluggishly along on its way back to the pumping station at the right side of the heart, from whence it is sent to the lungs for purification.

Nature has provided a means by which the circulation of the poison laden venous blood may be hastened, so that its impurities may be earlier eliminated. At frequent intervals in their course, the veins have their calibre interrupted by valves which all point

toward the heart, permitting the blood to flow only in that direction. Every time a muscle is contracted it becomes shorter and thicker, exerting pressure upon the surrounding tissues and blood vessels. When a vein is thus pressed upon, it is flattened out and empties in the direction of the heart. Its valves prevent the flow of blood in any other direction. The counter effect of the relaxation of the muscles has a tendency to draw the walls of the veins apart, encouraging the flow of blood from the rear. Every muscular movement performs a part in hastening venous circulation and encouraging the early elimination from the blood of carbonic acid gas. The value of the three fundamentals of health, food, fresh air and physical exercise, is evident.

The master cells from the throne room in the skull, directing their ever alert messengers, control the working forces of the body. They hear complaints, adjust differences, spur the laggards and restrain the enthusiasts, and when all the cells are being properly nourished and all specialized groups are performing their functions in a normal manner, then health exists.

Invisible forms of plant life which are called bacteria or germs surround us at all times. Some germs are not only harmless to human life but even beneficial, while others are responsible for the different diseases which afflict humanity. When disease germs enter the human body through some unguarded crevice, they multiply with wonderful rapidity, throwing off as a result of their activities toxins or poisons which are injurious to the tissues. As soon as the influence of these toxins is felt, the protective functions of nature are aroused and substances called anti-bodies or anti-toxins are formed in the blood to overcome the toxins or poisons of the germs. If the individual have sufficient resisting power and the infection be not too virulent, he may make enough anti-toxins in his blood to overcome the toxins of the disease and recovery is the result. While the anti-bodies are waging their warfare against the poisons produced by the disease germs, the white blood corpuscles, the policemen of the body, increased to an enormous army, are engaged in the destruction of the invading germs themselves. The result of this great and unusual activity within the blood vessels is a rise of the body temperature and so we have fever. All the spare energies of the body are commandeered for the production of anti-bodies and an ever-increasing army of white blood corpuscles, and so we have improper functioning of the organs. The stored up fats and even muscular tissues are called upon to furnish material for the fight, and so we have wasting and weakness. This is disease. Victory over the invasion of disease-producing bacteria is always brought about either by the production within the blood vessels of immunizing agents or their introduction from without. Whether the contest be long or short, successful or not, is dependent upon the number and character of the invading germs and the strength and resisting power of the individual.

BEDFORD FAIR

October 2, 1924

For the first time in the history of the Bedford County Fair, the field representatives of the Health Department, without assistance from the central office, prepared a health exhibit illustrating the Baby Health work as done in Bedford County.

The exhibit occupied two booths with approximate space of 18 x 9 feet, in a choice corner of the main permanent building of the Fair Association. This space was given free to Miss Mary Sullivan, State Nurse, by Mr. Roy Cessna, Secretary of the Fair Association. Every person who entered the main building had to pass out by the health exhibit; hence, all who came saw it.

DESCRIPTION OF EXHIBIT

The booths were attractively decorated with the national colors. Health posters with snappy and convincing legends were displayed on front of the booths, the rear and side walls. Easily read placards gave the name of the town, the location, days and hours of every baby health center in the County, together with the names of the attending physicians. There were also placards advertising the Tuberculosis Clinics in Bedford and Saxton.

In the first booth, in one of the front corners were scales equipped with a measuring rod, and preschool and school children were weighed and measured; in the other corner, a nurse weighed babies on standard spring scales and just behind, another measured them. Behind the large scales was a table from which another nurse distributed literature to interested parents. In the rear was a couch to be used in emergency. In the adjacent booth were displayed economical and useful toilet articles for the baby, the proper material and design of baby clothes (from diapers to caps), proper dress for the baby in accordance with changes in weather, the right kind of safe and enduring crib, arrangement of covers on the baby in winter, so that he cannot kick them off and how to drape the crib to protect the sleeping youngster from cold drafts.

The exhibit was arranged so as to permit plenty of free floor space for visitors to move about without being unduly crowded. Practically every physician in the County visited these booths.

When the crowd would thin out, gentle and humorous haranguing would immediately attract a multitude sufficient to block the aisle. This gave an audience to put over the reasons for early vaccination, diphtheria immunization, proper feeding under medical guidance, contagious diseases, handicaps of physical defects, weight and height ratio as an index of normal development, etc. At the end of two or three minutes of "barker-like" talk, lines would form for weighing and measuring. Few parents refused to have their babies examined when invited. The examination table was so situated that the undressed baby was not visible to the public gaze (no screens were used). The parents were most appreciative of this service and voluntarily promised to follow the advice of the examiner. Mothers unknowingly made many complimentary remarks concerning the

baby health centers in the County. One woman, when told her baby was normal except for his lack of weight and muscle development, replied, "You should have seen him, before I took him to the Bedford Center. He wasn't much more than skin and bones. The doctor in the Center said he only needed proper feeding and insisted that I go back to my family doctor and have him write out for me what to give him every week. How was I feeding him? Oh, according to the directions on the can. He sure has done nicely since I followed the doctor's formula." She gathered up the baby smilingly and began to sing the praises of her family physician.

PERSONNEL

The exhibit was in charge of Miss Sullivan. Assisting her were: Miss McLaughlin, a State Nurse, Mrs. Hooper, a local Nurse, and two Red Cross girls. Dr. Wilmot Ayres and the local Baby Health Center Chairwoman were in attendance. The local business houses generously lent the crib, clothes, toilet articles, etc., exhibited.

Owing to the large number of babies and children weighed, measured and examined, together with the numerous inquiries from interested parents, it was impossible to tabulate the visitors. The personnel was completely occupied in giving service.

Was the exhibit worth while? Most assuredly, yes! It provided a service to all who visited the fair, approximately 30,000 to 40,000 people. The people, who did not already know, learned some of the practical helps to health and happiness which the Department is giving Bedford County. The exhibit was probably the best in decoration, space, arrangement and service on the Fair Grounds. Certainly, it was most attractive. No other exhibit commanded more interest than this. To fully appreciate it, one had to see it.

REPORT OF EXECUTIVE DIVISION OF THE GENERAL STATE COMMITTEE FOR THE PROMOTION OF PERIODICAL HEALTH EXAMINATIONS

This Committee consists of Dr. Edward Martin, Chairman, Dr. Charles H. Miner, ex officio, Rev. C. Waldo Cherry, Dr. George Becht, Dr. H. C. Frontz and Dr. William C. Miller, Secretary.

The Committee met and prepared an examination blank, which has been printed and distributed.

All the Rotary Clubs, Kiwanis Clubs, Lions' Clubs, Chambers of Commerce and Women's Clubs of Pennsylvania have memorialized in regard to this movement. In almost every instance, they have endorsed it, but there has been apparently nothing further done.

A meeting was held in May at the Penn Harris Hotel, at which there were present, in addition to the Committee, Dr. Armstrong of the Metropolitan Life Insurance Company and Dr. Meeker, Secretary of Labor and Industry.

It was decided to call a meeting of the representatives of the Life Insurance Companies operating in Pennsylvania, and of operators in Industries.

Almost every Life Insurance Company has a plan either in operation or in prospect for the encouragement of Health examinations among its policy holders; none of them, however, go as far as they might. Almost all express their willingness to do so.

The meeting of the representatives of the Insurance organizations has been postponed at their own suggestion until later in the Fall; it will probably be held in the early part of November.

The Superintendent of Public Instruction will use the schools for the propaganda work. The Department Secretary of Labor and Industry will cooperate.

The Listening Post, the State Department of Health's official publication, has been carrying monthly articles on Health Examinations. This Journal has a circulation of 10,000, going to Physicians, Boards of Health, Nurses, Teachers, Clubs and Public Health Workers in general.

On the wrapper of all Listening Posts is printed in extra large type 70+, which the Health Department has adopted as the State slogan for periodical health examinations; the interpretation being, that while it is generally understood that the allotment of human life is three score years and ten, annual health examinations may extend this period to 70+, an indefinite number of years.

COMMUNICABLE DISEASES IN PENNSYLVANIA SEPTEMBER, 1924

By

DR. WILMER R. BATT, Director,

Bureau of Vital Statistics.

A total of 4,487 cases of communicable diseases was reported for September, an increase of 504 as compared with August 1924. Urban cases increased 335 and rural increased 169. The percentage of increase in rural cases was almost double that in urban cases.

The principal increases were as follows:

Scarlet fever	255	Impetigo	56
Diphtheria	219	Typhoid fever	43
Pneumonia	112	Anterior poliomyelitis	10

Diseases showing a decrease were:

Whooping cough	169
Measles	73
Tuberculosis	35

Urban cases contributed 74% of the increase of 219 in Diphtheria, and 69% of the increase of 255 in Scarlet fever, while 80% of the increase of 34 cases in Typhoid fever occurred in rural districts.

Of the sixty-seven counties of the State, Diphtheria occurred in 56, Scarlet fever in 55 and Typhoid fever in 50.

There were 32 cases of Smallpox as compared with 30 for August, and 13 centers of infection, the same number as in August.

Cases of Smallpox occurring in September were located as follows:

<i>Urban</i>			<i>Urban</i>		
<i>Locality</i>	<i>County</i>	<i>Cases</i>	<i>Locality</i>	<i>County</i>	<i>Cases</i>
Pittsburgh	Allegheny	8	Waynesburg	Greene	1
Swissvale	Allegheny	1	Philadelphia	Philadelphia	1
Dale	Cambria	1	Palo Alto	Schuylkill	4
Johnstown	Cambria	3	Pottsville	Schuylkill	4
Lilly	Cambria	4	St. Clair	Schuylkill	2
			Urban total		29
<i>Rural</i>					
	Berks	1			
	Greene	1			
	Washington	1	Rural total		3
			State total		32

There was an increase of 10 cases in Anterior poliomyelitis. Cases for the month, which were located as follows, covered a wider area:

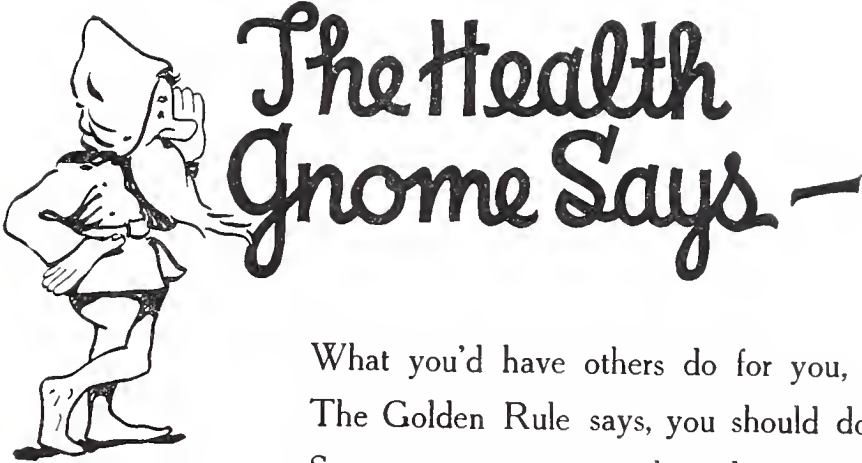
<i>Urban</i>			<i>Urban</i>		
<i>Locality</i>	<i>County</i>	<i>Cases</i>	<i>Locality</i>	<i>County</i>	<i>Cases</i>
Pittsburgh	Allegheny	2	Lancaster	Lancaster	1
Altoona	Blair	1	Allentown	Lehigh	1
Athens	Bradford	3	Hazleton	Luzerne	1
Carrolltown	Cambria	1	Hughesville	Lycoming	1
Johnstown	Cambria	1	Montoursville	Lycoming	2
Clarion	Clarion	1	Bradford	McKean	2
Camp Hill	Cumberland	1	Port Allegany	McKean	1
Dauphin	Dauphin	1	Philadelphia	Philadelphia	10
Harrisburg	Dauphin	1	Warren	Warren	1
Erie	Erie	4	Irwin	Westmoreland	1
Uniontown	Fayette	1	Jeannette	Westmoreland	1
Scranton	Lackawanna	1	North Irwin	Westmoreland	1
			Urban total		41
<i>Rural</i>			<i>Rural</i>		
	Allegheny	1	Erie		1
	Bradford	1	Lancaster		1
	Clearfield	1	Lycoming		2
	Clinton	1	Montour		2
	Columbia	1			
	Crawford	1	Rural total		12
			State total		53

The two cases of Encephalitis reported for the month were located in Philadelphia.

Communicable diseases for September, by urban and rural districts, showing a comparison with the corresponding month of the preceding year, are as follows:

	<i>Total</i>		<i>Urban</i>		<i>Rural</i>	
	Sept. 1924	Sept. 1923	Sept. 1924	Sept. 1923	Sept. 1924	Sept. 1923
All diseases	4,487	4,969	3,435	3,521	1,052	1,448
Anterior poliomyelitis	53	49	41	29	12	20
Cerebrospinal meningitis	1	7	1	7	0	0
Chickenpox	226	223	181	178	45	45
Diphtheria	750	1,132	580	778	170	354
Erysipelas	20	23	18	19	2	4
German measles	14	16	12	13	2	3
Malarial fever	4	1	2	0	2	1
Measles	201	459	111	238	90	221
Mumps	319	104	215	85	104	19
Pneumonia (true)	176	179	173	175	3	4
Puerperal fever	3	3	3	2	0	1
Scarlet fever	630	722	413	484	217	238
Smallpox	32	0	29	0	3	0

	<i>Total</i>		<i>Urban</i>		<i>Rural</i>	
	Sept. 1924	Sept. 1923	Sept. 1924	Sept. 1923	Sept. 1924	Sept. 1923
Tetanus	5	5	3	5	2	0
Trachoma	0	7	0	7	0	0
Tuberculosis	483	454	454	424	29	30
Typhoid fever	360	448	238	247	122	201
Whooping cough	1,111	997	869	709	242	288
Impetigo	66	92	60	73	6	19
Scabies	19	28	18	28	1	0
Ophthalmia	12	15	12	15	0	0
Encephalitis	2	5	2	5	0	0



The Health Gnome Says -

What you'd have others do for you,
The Golden Rule says, you should do—
So cover up your cough and sneeze,
To shield your neighbor from disease.

SCHOOL FOR HEALTH OFFICERS

Through the courtesy of Colonel Charles P. Reynolds, Commandant, the Medical Field Service School, Carlisle Barracks, has just completed a six weeks' intensive course in Sanitation for Pennsylvania State Sanitary Inspectors. This class of nineteen full time non-professional Health Officers was the third of its kind sent to Carlisle by the Pennsylvania Department of Health.

The course as conducted by Major M. C. Stayer consisted of lectures, demonstrations, inspections and individual study of Public Health problems. Following is the curriculum pursued by the three classes:

SPECIAL COURSE IN SANITATION FOR THE PENNSYLVANIA STATE SANITARY INSPECTORS

Instructor, MAJOR M. C. STAYER

Subject	Date	Symhol	Period No.	Length	Character	Place	Remarks
Hygiene & Sanitation	1st day	Hyg.	1	1 hr.	Lecture	Cl. Rm. 6	Value of Sanitation
Hygiene & Sanitation	2nd day	Hyg.	2	1 hr.	Demon.	Cl. Rm. 6	Personal Hygiene
Hygiene & Sanitation	2nd day	Hyg.	3	8 hrs.	Survey	Field	Barber Shops in Carlisle and Post
Hygiene & Sanitation	3rd day	Hyg.	4	1 hr.	Conf.	Cl. Rm. 6	Personal Hygiene and Barber Shops
Hygiene & Sanitation	3rd day	Hyg.	5	1 hr.	Demon.	Field	Mess Hall and Quartermaster Stores
Hygiene & Sanitation	4th day	Hyg.	6	1 hr.	Demon.	Field	Dairy
Hygiene & Sanitation	5th day	Hyg.	7	8 hrs.	Survey	Field	Dairy, Post and Mr. Stewart's Pasteurizing Plants
Hygiene & Sanitation	5th day	Hyg.	8	8 hrs.	Survey	Field	Restaurants, Carlisle
Hygiene & Sanitation	6th day	Hyg.	9	8 hrs.	Survey	Field	Meat Shops and Abattoirs, Carlisle
Hygiene & Sanitation	7th day	Hyg.	10	1 hr.	Conf.	Cl. Rm. 6	Milk
Hygiene & Sanitation	7th day	Hyg.	11	1 hr.	Conf.	Cl. Rm. 6	Food
Hygiene & Sanitation	8th day	Hyg.	12	1 hr.	Conf.	Cl. Rm. 6	Meat Shops
Hygiene & Sanitation	8th day	Hyg.	13	1 hr.	Conf.	Cl. Rm. 6	Restaurants
Hygiene & Sanitation	9th day	Hyg.	14	1 hr.	Lecture	Cl. Rm. 6	Respiratory Diseases
Hygiene & Sanitation	9th day	Hyg.	15	1 hr.	Lecture	Cl. Rm. 6	Control of Communicable Diseases
Hygiene & Sanitation	10th day	Hyg.	16	8 hrs.	Problem	Field	Scarlet Fever, Diphtheria and Measles
Hygiene & Sanitation	10th day	Hyg.	17	1 hr.	Conf.	Cl. Rm. 6	Scarlet Fever, Diphtheria and Measles
Hygiene & Sanitation	11th day	Hyg.	18	1 hr.	Lecture	Cl. Rm. 6	Intestinal Diseases
Hygiene & Sanitation	11th day	Hyg.	19	8 hrs.	Problem	Field	Typhoid Fever and Diarrhoea
Hygiene & Sanitation	12th day	Hyg.	20	1 hr.	Conf.	Cl. Rm. 6	Typhoid Fever and Diarrhoea
Hygiene & Sanitation	12th day	Hyg.	21	1 hr.	Lecture	Cl. Rm. 6	Insect borne diseases
Hygiene & Sanitation	13th day	Hyg.	22	8 hrs.	Problem	Field	Malaria
Hygiene & Sanitation	13th day	Hyg.	23	1 hr.	Conf.	Cl. Rm. 6	Malaria
Hygiene & Sanitation	14th day	Hyg.	24	1 hr.	Lecture	Cl. Rm. 6	Venereal Disease
Hygiene & Sanitation	14th day	Hyg.	25	8 hrs.	Problem	Field	Venereal Disease
Hygiene & Sanitation	15th day	Hyg.	26	1 hr.	Conf.	Cl. Rm. 6	Venereal Disease
Hygiene & Sanitation	15th day	Hyg.	27	1 hr.	Lecture	Cl. Rm. 6	Miscellaneous Diseases
Hygiene & Sanitation	16th day	Hyg.	28	8 hrs.	Problem	Field	Smallpox, rabies, itch and tetanus
Hygiene & Sanitation	16th day	Hyg.	29	1 hr.	Conf.	Cl. Rm. 7	Smallpox, rabies, itch and tetanus
Hygiene & Sanitation	17th day	Hyg.	30	1 hr.	Demon.	Field	Water purification, Carlisle
Hygiene & Sanitation	17th day	Hyg.	31	8 hrs.	Problem	Field	Water purification, Carlisle
Hygiene & Sanitation	18th day	Hyg.	32	1 hr.	Conf.	Cl. Rm. 6	Water purification, Carlisle
Hygiene & Sanitation	18th day	Hyg.	33	1 hr.	Demon.	Field	Disinfection and disinfection
Hygiene & Sanitation	19th day	Hyg.	34	8 hrs.	Problem	Field	Disinfection and disinfection, County Jail
Hygiene & Sanitation	19th day	Hyg.	35	1 hr.	Conf.	Cl. Rm. 6	Disinfection and disinfection
Hygiene & Sanitation	20th day	Hyg.	36	1 hr.	Demon.	Cl. Rm. 6	Latrines and urinals
Hygiene & Sanitation	20th day	Hyg.	37	1 hr.	Demon.	Cl. Rm. 6	Incinerators
Hygiene & Sanitation	21st day	Hyg.	38	1 hr.	Demon.	Cl. Rm. 6	Other sanitary devices

SPECIAL COURSE IN SANITATION--Continued

Subject	Date	Symbol	Period No.	Length	Character	Place	Remarks
Hygiene & Sanitation	21st day	Hyg.	39	2 hrs.	Demon.	Field	Sewage disposal plant, Carlisle
Hygiene & Sanitation	22nd day	Hyg.	40	2 hrs.	Conf.	Cl. Rm. 6	Sanitary devices
Hygiene & Sanitation	23rd day	Hyg.	41	8 hrs.	Problem	Field	Camp Sanitary Order for Boy Scout Camp
Hygiene & Sanitation	24th day	Hyg.	42	3 days	Survey	Field	One Section of Carlisle
Hygiene & Sanitation	25th day	Hyg.	43	4 hrs.	Exam.	Cl. Rm. 6	Examination

The old barracks at Carlisle is rife with historic memories. The old stone building shown in the illustration was built during the Revolution by Hessian prisoners, its four foot walls precluded all possibility of escape for the prisoners confined within. Four of the cells are veritable dungeons of the mediaeval type. It was in this stronghold, the unfortunate Major Andre was imprisoned, while awaiting his trial for his connection with the traitorous action of Benedict Arnold.

Needless to say, the dungeons are no longer in service, although the rest of the building is used as a guard house for occasional recalcitrant soldiers.

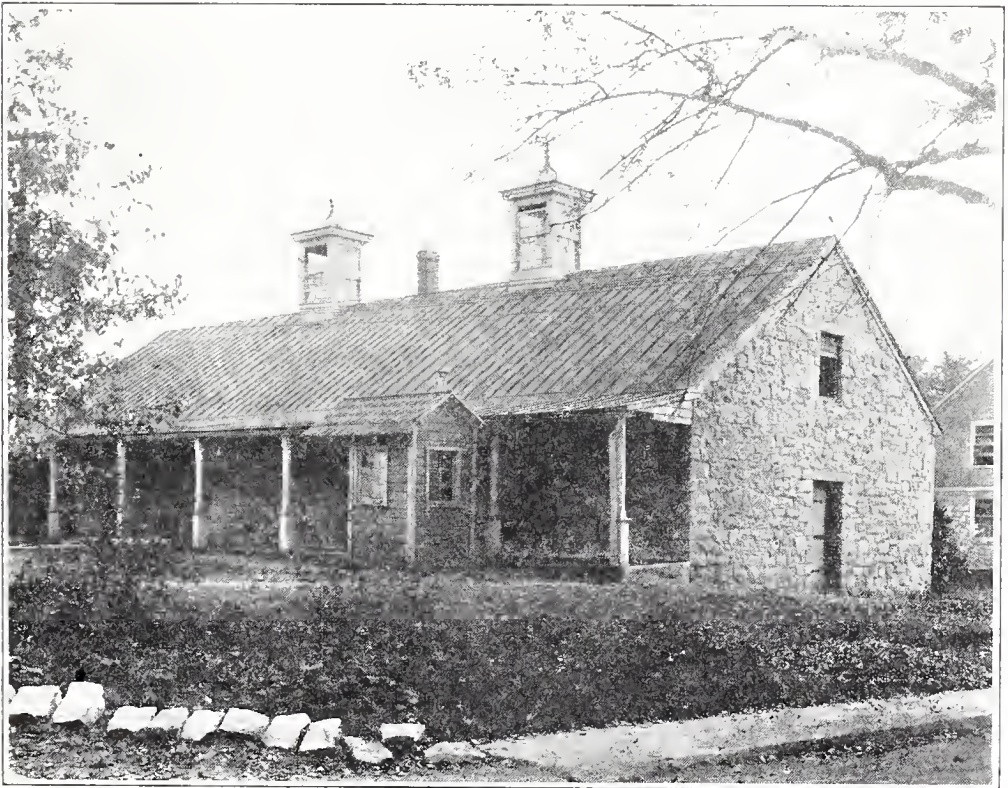


FIG. 1

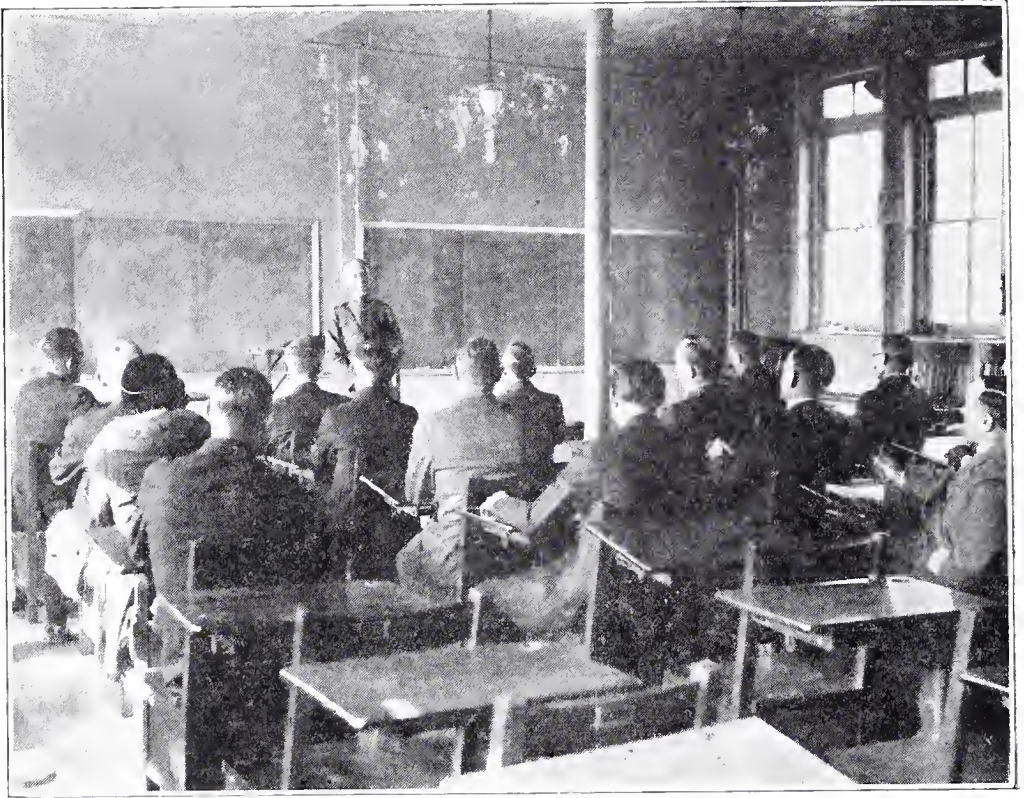


FIG. 2

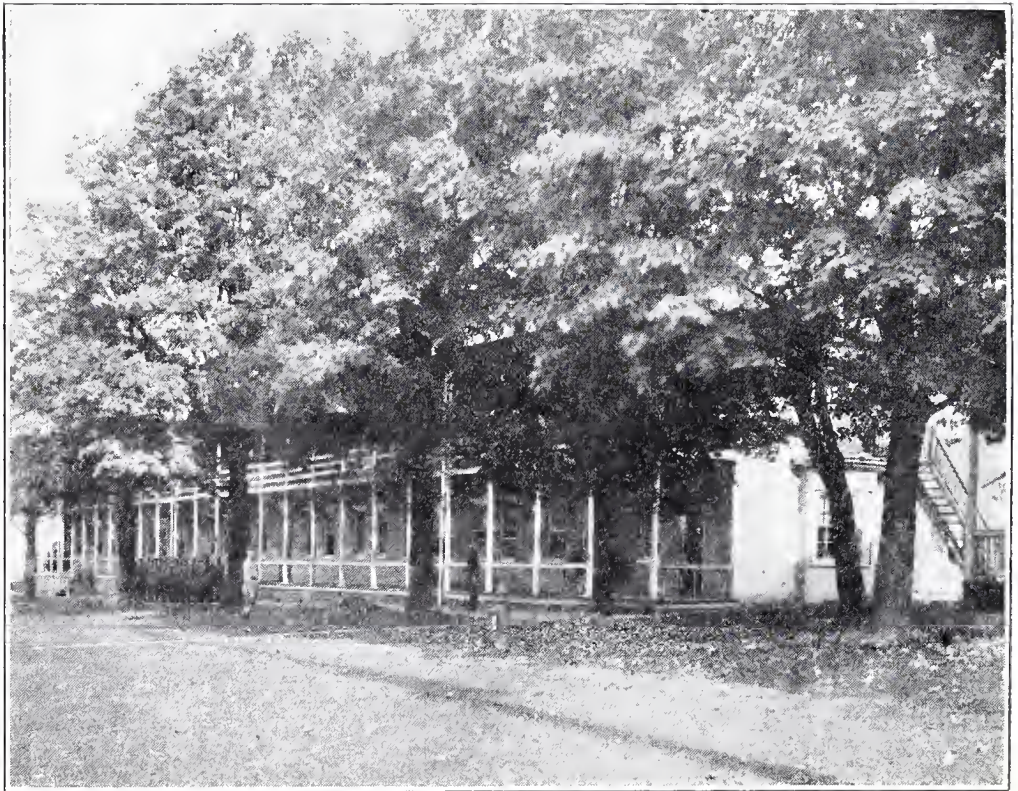


FIG. 3



FIG. 4

In cut No. 2 is shown Major Stayer's class room. Each lecture was followed by a quiz and general discussion.

Cut No. 3 shows the exterior of the Barracks, where the Health Officers were quartered, and cut No. 4 shows one of the rooms with its occupants preparing for the next day's quiz.

The result of these courses of instruction has been potently manifest in the improvement noted in every Health Officer, who has attended them. The following letter from the Secretary of Health to Colonel Reynolds indicates the Health Department's estimate of this service:

November 25, 1924.

Colonel Charles R. Reynolds,
Commandant,
Medical Field Service School,
Carlisle Barracks, Pennsylvania.

Dear Colonel Reynolds:

I am deeply appreciative of the spirit of cooperation manifested by yourself, Major Stayer, and your other officers, in conducting courses in sanitation for our Health Officers. You have increased their efficiency and added to our strength.

Very truly yours,

Charles H. Miner, M. D.
Secretary of Health.

PRELIMINARY REPORT OF A STUDY OF INFANT MORTALITY IN A CERTAIN COMMUNITY IN PENNSYLVANIA

By

DR. JOHN D. DONNELLY, Chief,

Field Service Section.

———— is a one-industry town depending chiefly upon a ——— Company Plant. Its economic life parallels that of the steel industry. As elsewhere, there has been little expansion and few homes built since 1919. This has resulted in a fair degree of overcrowding. Families who formerly occupied an entire house now share it with one or more families. Fifteen languages and dialects are spoken.

The town has a good water supply, an adequate sewerage system and safe milk. Council is active and progressive in the interests of health. The Board of Health functions efficiently. A full time health officer performs his duties diligently. Twelve capable physicians serve this community. There is an active Baby Health Center with a physician in charge. The town has a community nurse, a school nurse and two plant nurses who visit employes' homes.

Maternal disease, systemic conditions and certain unknown factors interfere with intra-uterine development and nutrition and become causes of premature and still-births. To these must be added mothers' unbalanced diet, insufficient food, injuries, hard work, lack of rest, worry and poor hygiene.

Few women enjoy thorough prenatal care. They prefer to let "nature take its course" and call medical assistance at the last minute. There is urgent need of enlightening the public as to the fact that physicians have more valuable services to offer than prescription writing. A complete physical examination early in the prenatal period would dispel mystery and reveal the truth concerning the mother's health and help guide her to safe delivery of a healthy baby.

Artificial feeding is common among those of foreign born parents. The absence of the "family doctor" in many families handicaps the prospects of individual health work.

Many babies who died had been ill several days or more before a physician was called. Because a baby cannot locate nor describe his ailments, the seriousness of his condition is liable to be overlooked.

Any program for reducing infant deaths must be based upon general health work, including children of all ages and the community as a whole. It must be sufficiently flexible to meet local conditions from time to time. To make it effective, it should be supported by welfare work among the real indigent. As sick babies are potential deaths and if infant mortality is to be lessened, every health program should include provisions for getting sick babies early under the care of a physician.

Prevention must be aimed at the simple underlying and contributory causes of death. These, parents will appreciate, if an explanation be given in plain language which they can understand.

The mother is the principal factor (directly or indirectly) in the production of live births and healthy, vigorous babies. As such, the problem resolves itself primarily into an individual family, one with the mother as the chief factor.

A local health organization composed of physicians, health and welfare organizations, has been formed to aid in lessening infant deaths by disseminating information as to contributing causes and demonstrating methods of prevention. This work radiates from the Baby Health Center. Council appropriated one thousand dollars toward this work and the support of a community nurse.

The medical care and treatment of sick babies will be exclusively in the hands of the local physicians. The Health Center will give no medical treatment. When defects or other medical conditions are found which need correction, babies will be referred to their physicians for correction and medical care. Parents who can afford to pay a fee will be encouraged to place their babies under the observation of their doctors.

TECHNIQUE FOR SMALLPOX VACCINATION

1. Thoroughly cleanse the selected site with soap and water, drying with sterile gauze. Antiseptics must be avoided because they destroy the virus. Alcohol is not considered necessary but if used must be thoroughly dried.

2. Use fresh virus which has been kept at ice-box temperature. Failure of primary vaccinations to take is almost wholly due to deterioration of the virus.

3. Make, with a sterile needle, two parallel incisions in the skin—each not more than one-fourth of an inch long and from one-eighth to one-fourth of an inch apart and neither deep enough to draw blood. Extensive scarification is painful, opportunity for secondary infection is increased in direct ratio to size of area scarified and the extravasated blood forms an excellent culture medium. The dictum that the larger the area for the introduction of the virus the greater the probability of success is fallacious.

4. Apply a temporary dressing to prevent contact of clothing with virus until dry. This dressing should be removed after a few hours and none thereafter applied. Vaccination shields and dressings are dangerous because they predispose to infection by increasing warmth and moisture (favoring bacterial growth), collect dirt and engender a sense of security, forestalling their removal until the infection they have made possible is well established.

5. Have the skin for a wide radius about the "take" thoroughly cleansed with soap and water daily, oftener if necessary, avoiding always the lesion itself. A mixture composed of:

Tincture of iodine	1 part
Picric acid	4 parts
Alcohol	95 parts

is recommended as a paint which can be applied to the whole vaccination area, beginning on the third or fourth day.

6. If the vesicle ruptures, fold a sufficiently large piece of clean linen into a triangle, fasten the base to the clothing over the shoulder, allowing the apex to fall loosely well below the lesion. Replace with a clean triangle daily or oftener. Other dressing is unnecessary and likely to be dangerous.

7. Insist that the patient return as often as necessary to insure proper following out of your "after cure" instructions. The popular belief that vaccinations must get "sore" disposes the parent to postpone medical attention of secondary infections until serious.

The outlined technique makes for one hundred percent success in primary vaccinations, reduces to a minimum the accidents associated with it, favors a more rapid vaccinal course and will go far to correct the lay misconception and apprehensions concerning vaccination which a too general faulty technique tends definitely to perpetuate.

DEPARTMENT NOTES

The counties of Washington, Butler, Venango and Crawford have organized County Board of Health Associations.

Washington County was the pioneer in this movement and its constitution, which was adopted without change by the other counties, provides for quarterly meetings. This is an excellent move and in accordance with the plan of the State Department of Health. It is to be hoped that a similar organization be effected by every County in the State, looking forward to the early organization of a State Association of Boards of Health and Public Health workers which shall meet annually at Harrisburg.

The annual session of the Pennsylvania Dairy and Milk Inspectors will be held at Harrisburg, January 20th and 21st, 1925.

An especially interesting program has been prepared. The meeting is held during the week of the Annual Farm Products Show to give delegates to the Milk Association meeting the opportunity to also visit the Farm Show.

Frederick D. Wells, of Huntingdon, Pennsylvania, has been appointed Health Officer to take over the following townships in Huntingdon County: Lincoln, Morris, Hopewell, Porter, Oneida, Penn, Henderson, Walker, Smithfield, Juniata and Logan.

Dr. C. J. Hollister attended the 66th annual Convention of the American Dental Association at Dallas, Texas, November 10th to 14th. He took with him an exhibit setting forth the activities of the Dental Hygiene Section of the Pennsylvania Department of Health.

During his stay in Dallas, the Doctor, who is geared to run in high with all brakes off, addressed four High School Assemblies, the

Junior Chamber of Commerce, the Lions' Club and broadcasted an evening talk from station W.F.A.A.; this in addition to reading a paper before the general Assembly of the Association and addressing the Section on Mouth Hygiene and Preventive Dentistry. Dr. Hollister was honored with the Chairmanship of that important section for the ensuing year.

Dr. Guy S. Milberry, Dean of the University of California Dental School, in discussing Dr. Hollister's paper before the General Assembly, made the statement that Pennsylvania has more public dental activities than all the other states of the Union combined; also that the Hygienists, now engaged in public Dental service in Pennsylvania, exceeded the total of such professionals in the rest of the United States.

Recently the State Health Department opened a new Tuberculosis Clinic in Quakertown with Dr. Raymond Tice in charge. It is open the second and fourth Thursdays of each month. Other clinics in Bucks County are at Bristol and Doylestown.

Another clinic opened by the State is at Ambler, it being sponsored locally by the North Penn Community Center.

Penna. Tuberculosis Society Bulletin.

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ISSUED MONTHLY

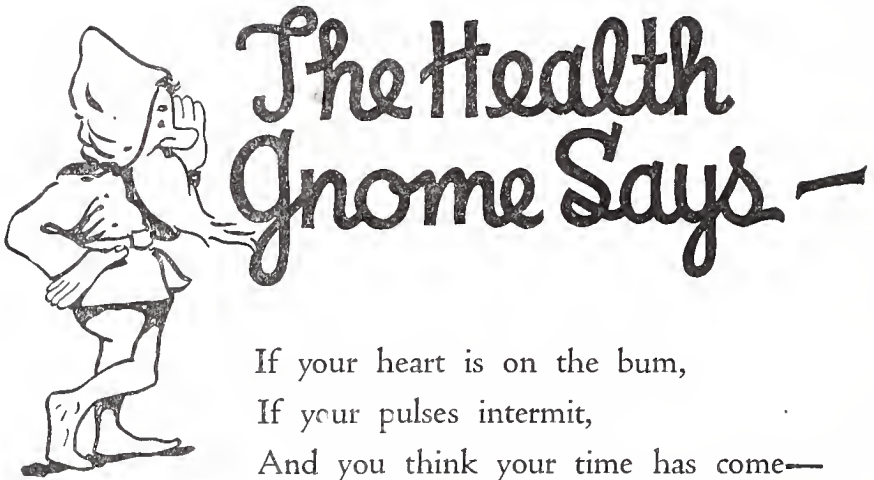
By The Pennsylvania Department of Health

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DECEMBER, 1924

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If your heart is on the bum,
If your pulses intermit,
And you think your time has come—
Don't throw up your hands and quit.
Give yourself another think,
See your doctor right away;
Many a heart once on the blink
Is pumping sturdily to-day.

The Listening Post

A MONTHLY JOURNAL OF PUBLIC HEALTH

Editor
William C. Miller, M. D.

Address communications to The Listening Post,
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Harrisburg, Pennsylvania.

Vol. 2 Harrisburg, Pennsylvania, December, 1924 No. 21

"Acceptance for mailing at special rate of postage provided for in section 1103,
Act of October 3, 1917, authorized April 6, 1923."

The present number of the "Listening Post" is devoted largely to the heart and its various diseases. These special articles were collected and edited by Dr. Joseph Sailer, Professor of Clinical Medicine, University of Pennsylvania and President of the Philadelphia Heart Association.

The incidence of heart disease is so great and the prevention of many forms by early discovery so important, that heart disease should by all means not only receive special attention at the hands of public health officials, but be formally placed among the list of those preventable conditions, against which a campaign of education may be waged with the assurance of satisfactory results.

"A stitch in time saves nine" is as true today as when it was first uttered, and a wider knowledge of heart conditions and their means of prevention will undoubtedly materially lower their far too high mortality rate.

W. C. M.

THE HISTORY OF THE MOVEMENT TO CONTROL HEART DISEASE

By

GEORGE W. NORRIS

Professor of Clinical Medicine, University of Pennsylvania
Vice-President of the Philadelphia Heart Association

For some time past the thinking clinicians have strongly felt that "Something ought to be done about heart disease." The constantly repeated story of the patient who never knew he had heart disease until he had heart failure; the growing conviction that heart disease was in a large measure preventable through the elimination and early care of its commonest etiological factors—tonsillitis, rheumatic fever, chorea and syphilis; the futility and waste of time which was associated with recurrent cardiac breakdowns in patients whose symptoms improved satisfactorily under rest and digitalis, only to

return promptly when the patient resumed his frequently unsuitable occupation—a consideration of these foregoing facts finally culminated in an effort made by Dr. Lewis A. Conner, of New York City, to systematically organize some form of correction and relief. This at first took the form of occupational therapy and publicity regarding the known facts concerning the cause and course of heart disease. Later on convalescent care at country homes, appropriately supervised, was instituted. A successful effort was made to interest the laity in the subject and a Society for the Prevention and Relief of Heart Disease was finally organized.

Since then numerous similar efforts and kindred societies have been organized in Philadelphia, Boston, Chicago, Indianapolis, San Antonio and elsewhere. In Pennsylvania, heart clinics have been established at Pittsburgh, York, Johnstown and Philadelphia. In Canada, Montreal has an association for children only.

Just as the anti-tuberculosis movement was gradually furthered through various anti-tuberculosis societies which did so much to spread a knowledge of this disease before the public, the various heart associations throughout the country are now attempting a similar campaign. They are urging and have in many places successfully carried out, with the cooperation of the local health authorities, the routine examination of school children, correction of naso-pharyngeal infections, dental care, and special schools at which heart handicapped children are being taught trades suitable to the degree of their ailment. They have emphasized the importance of prolonged rest during convalescence from tonsillitis and rheumatic fever, as well as the early and thorough treatment of syphilis. They have endeavored to interest local charities and municipal as well as State government in the establishment of convalescent homes. Co-operating with social service agencies, they have succeeded in finding occupations and positions for many cardiac invalids.

At present new heart associations are constantly being formed at different places throughout the State and country and it is confidently expected that within the next ten years, definite results should be demonstrable.

THE STATISTICS OF HEART DISEASE

By

HELEN HEIKES, Executive Secretary

Philadelphia Heart Association

Heart disease today heads the world's mortality lists. In the State of Pennsylvania for the year 1923, there were 13,087 deaths from organic heart disease or 10.8% of the total number of deaths. See chart given below:

Deaths in Pennsylvania for the year 1923 from:

	<i>Number</i>	<i>Percent</i>
Total Number of Deaths	120,622	100
Organic Heart Disease	13,087	10.8
Nephritis, Bright's Disease	10,296	8.5
Cancer	8,227	6.8
Tuberculosis, all forms	7,774	6.4
Pneumonia, all forms	7,857	6.5

Up to ten years ago tuberculosis kept pace with organic heart disease for first place among the causes of death. Because of the intensive fight waged against it, tuberculosis today takes fourth place.

Of the 5,000,000 men of military age examined during the army draft for the World War, 200,000 or 5% were rejected on account of organic heart disease. About 2% of the applicants for life insurance are refused annually by insurance companies because of serious heart defects, and about 2% of all children examined in public schools are found to have diseased hearts.

In Philadelphia for the year 1923 there were 4161 deaths from organic heart disease, as against 2122 from pulmonary tuberculosis and 2234 from cancer. There are at this time 4310 patients in active attendance in the twenty-two (22) heart clinics in Philadelphia. All these are persons unable to pay a physician's fee.

During the year 1921 there were 580 adult patients treated in the wards of the Philadelphia General Hospital for advanced heart disease. The average length of hospitalization per patient is about thirty days. At a wage of only \$2.00 per day at least \$34,800.00 was lost to the families of these patients, and the cost to the city of Philadelphia was in the neighborhood of \$41,760.00.

This is the problem which we must face today. Can we not, by putting forth our best efforts, accomplish in time for heart disease what has been done for tuberculosis in the last ten years?

THE CARDIAC CLINIC

By

DR. JAMES E. TALLEY, Prof. of Cardiology

Graduate School of the Medical Department, University of Pennsylvania, Philadelphia

The ideal cardiac clinic will be outlined below, but modifications can be made according to the possibilities in any given place. Meager beginnings mark the early history of most successful enterprises. Usually in the cardiac clinic the patient's condition is both diagnosed and treated, but there is no reason why in given cases the clinic should not examine the patient and furnish his doctor with a diagnosis. The patient, the family doctor and the examiner will all be the gainers; the first two, because of the exact diagnosis which the facilities of the clinic furnish; the examiner, because only unusual cases will be referred.

The ideal cardiac clinic is associated with the general medical service of a hospital. Excellent work can be done in health centers, but they lack the equipment necessary for the best results. Only in the hospital are there the other necessary departments for thorough examination of the patient, as nose and throat, X-ray, dental department and general laboratory routine examinations, (also Wassermann, blood chemistry and basal metabolism rate). The personnel of the cardiac clinic should consist of a chief of clinic, his assistants, social service workers and a nurse.

The chief of clinic should be an internist or pediatricist with some experience in modern cardiology. The wider his general clinical

experience, the better. He should be in charge of the clinic and see that each patient has a full history taken and a thorough physical examination made. He should see to it that the patient has the benefit of the other special clinics, and that his own clinic offers its services to these clinics. He can be of use to the surgeons and obstetricians with their heart patients.

He should supervise the work of the juniors and should be responsible for the diagnosis and treatment. He should see to it that the assistants are able to watch the progress of the patients.

The Social Service Department should have charge of appointments, the admissions, and the distribution of patients, as well as the follow-up work. Appointments are necessary because they distribute the work and allow the time necessary for each patient. The Social Service Department is the connecting link between the heart clinic, the hospital ward, dentist, nose and throat department, general laboratory, X-ray department, school, the home, and sometimes also the diet kitchen, the convalescent home, and associations for placing cardiacs in suitable positions. It should collect the records of the various departments and file them with the history. In some clinics partial filling in of the history sheet by the social service worker is a great time saver to the doctors.

There should be a nurse in attendance at the clinic to take temperatures, to weigh the patients, and to prepare them for examination.

The necessary space is a waiting room and a number of small rooms or cubicles in which to take the histories and examine patients. Each of these small rooms should contain an examining table or couch, and a small desk and chairs. It facilitates work to have on each physician's desk a blood pressure apparatus, a millimeter rule, a reflex hammer, tongue depressors and blanks for referring patients to other departments or other institutions. Small flash lights and instruments for examining nose, throat and ear are desirable. Each clinic should contain one spirometer. Each physician usually has his own stethoscope.

With respect to records the Cohn history sheet is ideal, but the universal difficulty of securing enough workers has so far precluded its wide use. Most clinics have to content themselves with less complete records. Many clinics have worked out satisfactory forms, which include history, physical examination, laboratory findings, treatment, progress of the patient, and social service activities. All records pertaining to each patient should be filed in one folder. The Philadelphia Association will furnish samples of such records to those starting a cardiac clinic.

The absence of an electrocardiographic department need not prevent the formation of a cardiac clinic. A chief of clinic trained in modern cardiology can conduct a satisfactory clinic without it, especially if he can refer selected cases to another heart station. If one has time and aptitude to master the polygraph, it will afford valuable information concerning alternation, conduction and the various irregularities, but it lacks the exactness of the electrocardiograph.

Cardiac clinics bring together a great number of people who have a common complaint and will in time afford a mass of data which will be useful in the study of the etiology, the diagnosis, the prognosis and the prevention and treatment of cardiac disease. When we remember what has been accomplished in less than one lifetime in the prevention of tuberculosis, is it not worth-while to strive for similar results in cardiac disease?

PENNSYLVANIA STATE HEART ASSOCIATION

By

DR. JOSEPH SAILER, Professor of Clinical Medicine

University of Pennsylvania

President of the Philadelphia Heart Association

During the meeting of the Pennsylvania State Medical Society, at Reading, in October 1924, a number of physicians from various parts of the state met for the purpose of organizing a Pennsylvania State Heart Association. This is the first attempt to organize such an association, although there are already in operation several Heart Associations in various cities and a National Heart Association has recently been organized.

In the call issued for this meeting the following objects for the activities of such an association were suggested:

1. The care of cases of chronic heart disease in adults, particularly by keeping them under medical supervision, preferably by their regular medical advisers; providing them, if necessary, with suitable occupations, and possibly by securing institutional care for them.
2. The study of children, especially in schools, suggesting prophylactic measures; and, for cases with damaged hearts suggesting measures that will tend to relieve strain and maintain compensation. In cases in which compensation is already damaged and the housing conditions bad, referring them to suitable institutions.
3. Instructing the public in the frequency of heart disease, the danger even of the milder forms, and the need of medical supervision.

The thought was expressed at this meeting, that a large field for the work of such an organization existed in the rural districts. How these districts may effectively be helped can only be determined by actual experience; but there seems to be reason to expect that facilities can be made available, at a distance from the larger centers of population, for the careful study of hearts by the modern methods, and placed at the disposal of the local physicians; that teachers of occupations for the heart handicapped can be supplied to instruct any patients that the physicians of those patients should decide need such instruction, and that the state association could arrange for the institutional care of patients whose physicians decide are suitable for institutional treatment.

Such an association can only exist, if the physicians of the state cooperate earnestly in its activities. It is neither feasible nor desirable to supplant local physicians. Upon them must fall the brunt

of the work of caring for the heart cases in their communities. Skilled assistants for organizing social service work and for teaching more favorable occupations can, however, be provided as a part of the work of the state associations; and it is probable that some uniform method can be suggested for the examination of the hearts of school children in order to obtain trustworthy statistics upon this subject.

Equally important is the support of the non-medical population and it is likely that the least valuable part of their assistance will be financial. Those of the laity who appreciate the work that is undertaken, and are willing to assist, will form a nucleus around which will grow an ever-increasing group of people interested in making the effort a success. This group will be able to arouse the community to the importance of taking concerted and individual action for the reduction of the economic loss of heart disease, by advocating examination from time to time of the apparently healthy, by insisting upon the examination of school children, by interesting employers to keep their employes in a state of efficiency, and the employed to keep efficient, and, if necessary, to adopt some more suitable occupation. Lay, or combined lay and medical boards, will organize and manage the institutions, clinics or work schools, that may be needed.

It has been the common experience, in all undertakings of this kind, that the possibilities of usefulness are barely glimpsed at the beginning and that new fields of usefulness are constantly being discovered. Such has been the history of the Heart Associations in the various cities, such surely will be the future of the Heart Association of the State of Pennsylvania and of every other State Heart Association as it is formed.

OCCUPATIONAL INSTRUCTION FOR THE HEART HANDICAPPED

By

MRS. JOHN H. MUSSER, JR.

What a wide and varied field is contained in the above title; but one which is being covered most successfully by the Occupational Therapist and her occasional assistants of the Philadelphia Heart Association. The occupational therapist must have taste, tact, practical knowledge and above all overwhelming patience, for the patient must be coddled into the belief that he is able to do work of a certain type and that he should not be content to sit still and allow the community to support him. The cases needing occupational therapy are referred mostly from the hospitals having clinics and with them go the classification cards of the Heart Association, stating definitely the amount and kind of work of which the patient is capable. These cards have been filled in by the Social Worker in the heart clinic and, of course, contain not only exact information as to the class to which the patient belongs, but also the name, the address, the former occupation and the financial situation. Upon receipt of the card, the therapist sends a note promptly to the patient with a request for him to remain at home, naming the hour and the day when she will call, and asking him to reply on an enclosed post card if this be inconvenient.

These preliminaries over, our real work of teaching, comforting, aiding and encouraging starts. A call is made by the therapist who takes with her a variety of suitable material (chosen according to the classification) and the patient is given his choice of work—such as basketry, the making of toys, embroidering or rug making. Incidentally it might be mentioned that at times even the A, B, C's have been taught and most gratefully accepted. A supply sufficient to last approximately a week is left at the patient's home. At the end of this time the therapist returns and buys in the article or articles that have just been made, paying a price in proportion to the quality of the work and also in proportion to the financial need of the individual—deducting only the cost of materials.

On the Association falls the disposal of these articles made by the patient, for he must be made to feel that his handiwork is useful and salable and that he is turning out things that can be sold. However, most naturally, coming as these things do from the handicapped, many are not salable, but the therapeutic value of work is the primary consideration and everything is done to make the patient happy in the knowledge that after all he can do something worth-while, for the contented mental attitude is most necessary for proper therapeusis and the care of the chronically ill. This is the great aim of the Association. The sale of the articles made by the patient, at combined or private sales, has about balanced the outlay, considering the waste which unfortunately is necessary.

The variety of the work can be reviewed by these few cases.

James B., an aged man, hitherto entirely dependent on relatives and unable to do any work outside his home, now makes toys and has become partially self-supporting.

John T., a young boy, has shown such artistic talent in painting the toys made by the above patient that through the generosity of a member of the Association, he has been sent to the School of Industrial Art.

Francis S., a young lad, for whom the Heart Association has secured a Scholarship in the Wanamaker Institute, is now studying mechanical drawing.

Mrs. S., an aged woman, through her knitting, earns enough to pay the rent of her room.

Jennie Z., aged 35 years, by making braided rugs and needlework, with the help of a small income of her own, has now become self-supporting.

Edwin P. makes baskets. Since taking this up he has made enough to support his wife and two children. This man is very enterprising and has personally sold a lot of his wares.

Work is also done in the Children's Home where the therapist is literally received with open arms and is eagerly looked for on the afternoons that she devotes to the children.

Many bright vistas are opened up to the sufferers by the therapist who is counsellor, teacher and friend to all with whom she comes in contact. The work is growing slowly, but steadily, as the real need of it is appreciated more and more by the physician and social worker.

SOCIAL WORK AMONG PATIENTS SUFFERING WITH HEART DISEASE

By

MARY M. SCHWARTZ

Medical Social Service Worker in Heart Clinic of Pennsylvania Hospital, Philadelphia

In speaking of social work among cardiac patients, we can group the work done into two classifications: first, that of purely medical follow-up, and secondly, that of adjustment of the daily life of the patient and the patient's family to the presence of a physical handicap.

By medical follow-up we mean seeing that the patient returns to the clinic regularly for his treatment and examination, whether it be once a week, once a month, or once every three or six months. We mean referring the cardiac to other clinics or hospitals for treatment of conditions other than heart disease, in seeing that the patient enters the hospital, if ordered to, and lastly in having the patient return to the clinic after his discharge from the hospital.

The bulk of the work, and to my mind the most important, is that which I have specified in the second group, that of adjustment of the patient's life and his family to the presence of heart disease. This means adjustment in all phases of daily life, for the child cardiac, its home, school and play life, for the adult cardiac, his home, work and recreational life.

In explaining this phase of the work, a clearer idea of what is done for the child suffering with organic heart disease can be gotten by citing the adjustment that was made in the life of a little girl, aged 11, who has been attending our heart clinic for several years.

Louise Adams first came to our clinic two years ago suffering with a badly damaged heart due to recurrent attacks of Rheumatic Fever. After Louise's first examination, the doctor recommended that she come into the hospital, have all foci of infection removed and then be sent to the Children's Heart Hospital at Wynnefield, Philadelphia, for prolonged rest and care. The social service worker visited Louise's father and mother, explained her condition to them and the necessity of following the doctor's advice. It was at first difficult to make the parents understand the need of hospital and convalescent care for Louise, but after repeated visits they finally consented and Louise was admitted into the hospital. A picture of the child's home and family life were brought back to the doctor and his recommendations obtained for the proper adjustment of these, when the child should return from the Heart Hospital.



CHILDREN'S HEART HOSPITAL, WYNNEFIELD, PHILADELPHIA

After a period of four weeks in the hospital, during which time a Tonsillectomy was done and Louise's teeth fixed, she was sent to the Children's Heart Hospital, where she remained eight months and was discharged, greatly improved. The daily regime, which Louise followed at the Convalescent Home, was outlined to her mother by the social worker, as Louise was to continue this in so far as it was possible at home. As the school term was over for that year, arrangements were started through the medical director of Public Schools for Louise to begin the fall term in a special class, where she could benefit by special rest periods, special diet and to which and from which she would be taken in a bus. In this way she would be obtaining her schooling but her physical activities would be reduced to a minimum. Her bedroom was changed from the third to the second floor at the suggestion of the social worker. An Occupational Therapy teacher from the Philadelphia Heart Association was sent to Louise's home so that she might keep occupied, but be quiet at the same time. Louise is attending the Heart Clinic regularly, is attending school regularly and her mother and father cooperate in every way with the doctor and social worker, as they have seen that by so doing, the best results can be obtained for Louise's health and happiness.

Adjustment for the adult cardiac is more difficult because the adult male cardiac is usually a wage earner for a family and the adult female cardiac is usually a mother and a housekeeper. The social worker can lighten the household duties, when the mother particularly needs rest, by sending in a visiting housekeeper, through the Bureau of Visiting Housekeepers.

Many times the resources of the social worker will not cover all these needs for adjustment. Especially so is it true in trying to find "light jobs" for the cardiac. Because of the Workmen's Compensation existing in most of the manufacturing and commercial

organizations, a person with heart disease will not be employed because of the liability incurred. In Philadelphia, however, a Bureau for the Handicapped is being organized and as soon as this is in operation, we are hoping that the question of employment for the cardiac may be solved.

Through the various relief organizations in the city, we are able to secure emergent relief, when the wage earner is totally incapacitated. In some few cases the families of cardiac patients have been supported by one of these organizations, while the patient is learning a trade suited to his physical ability.

This is but a brief outline of the work done, but it is written with the hope that those about to organize a cardiac clinic and those who will in the future organize one may see the necessity of having as one of the personnel of the clinic, a social service worker.

CONVALESCENT CARE OF CHILDREN THREATENED WITH OR SUFFERING FROM HEART DISEASE

By

DR. WILLIAM D. STROUD

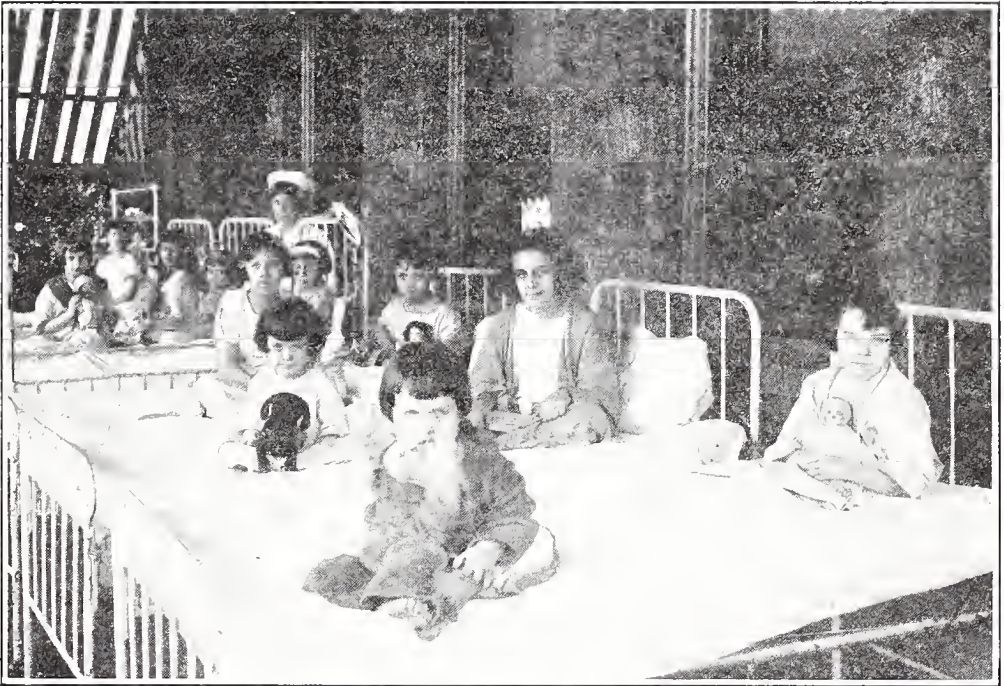
Physician in Charge of Children's Heart Home of the Philadelphia Heart Association
Physician to the Pennsylvania Hospital

Disease of the tonsils, teeth and sinuses has not definitely been proven to be the cause of acute Rheumatic Fever, St. Vitus' Dance, Scarlet Fever or other diseases which damage the hearts of children. Yet, it has been well demonstrated in a large number of cases, that when such diseased tissues have been removed, a recurrence of the infection which has damaged the heart is much less likely, and the general condition of such children improves to a marked degree. It can be readily understood, therefore, how essential the removal of such diseased tissue is, before attempting country convalescent care for these children. It cannot be over-emphasized how well the average child with heart disease stands anesthesia, unless actual evidences of heart failure are present. The unnecessary fear that children who have had their hearts damaged, and who have diseased tonsils, teeth and sinuses cannot stand operation for their removal has made a great deal of careful convalescent care useless. Let us realize, therefore, that before any type of convalescent care is begun all foci of infection must, so far as possible, be eradicated.

Our experience at the special home conducted by the Philadelphia Heart Association, during the past two years, for the convalescent care of children threatened with or suffering from heart disease, has made us realize that they must be divided into three classes:

1. Those with apparently undamaged, or definitely damaged hearts, convalescing from infections which usually damage the heart.
2. Those with actually damaged hearts, but in whom, at present, there is no active infection.
3. Those with advanced heart disease, continuously on the border line of heart failure,

In order that the best results may be obtained with the least economic loss, it is essential that children, who may be included under any of these classes, be treated from the start in the proper type of convalescent institution. Those under class 1, in whom active infection is present, should be kept at almost total rest until they develop sufficient resistance to overcome the infection, which is damaging their hearts. Irretrievable damage may occur if such children be allowed to exercise before the active infection is over. In some, convalescent care must continue from six months to a year before success is attained.



PATIENTS ON ENCLOSED PORCH OF CHILDREN'S HEART HOSPITAL

The results, so far obtained by us, would indicate that following the careful removal of foci of infection, prolonged rest in bed with a gradual increase in effort, as the temperature, gain in nutrition and general improvement warrant, will not only greatly lessen the possibility of a reactivation of an endocarditis, but also a recurrence of the original infection which has damaged the heart. We cannot say, positively, that such rest has minimized the damage to the hearts of these children, but we believe this to be true.

On the other hand, those under class 2 can be cared for in institutions with much less careful supervision. They can play and run and take part in various games. At the same time with good food and fresh air, in a few weeks they may regain fifteen or twenty pounds in weight, which has been lost during the winter through confinement and hard work. Their future is assured, if their general physical well being is maintained, and thus the reserve power of their heart muscle conserved to carry on the added burden resulting

from a damaged heart valve. The object of a visit to such an institution may be accomplished in from four to six weeks.

More careful supervision is necessary for those under class 3. Here the outlook is poor at best. There is always danger of heart failure, and the main object of convalescent care is to give pleasure and amusement to those who cannot receive this at home. The stay of these children must necessarily be indefinite.

The above applies to care of children in larger towns and cities. We must remember that ideal convalescent care can be given at home, but unfortunately, seldom is. This is due to lack of cooperation by parents in following out detailed instructions given by physicians, or lack of insistence, by the latter, for proper prolonged convalescent care.

In spite of disease of the heart, children may be given the normal expectancy of happy useful lives. The responsibility for accomplishing this lies with parents, physicians, nurses and social service workers. They can learn, through literature distributed by the American Heart Association, or by the numerous local Heart Associations, the type of care necessary for satisfactory results. It is the grave responsibility of each one of us to plan the future of these children—unable to visualize the future for themselves. Proper and prolonged country convalescent care is the essential primary step, and is usually the determining factor for failure or success.

THE EFFECT OF DISEASE ON THE STRUCTURE OF THE HEART

By

DR. E. B. KRUMBHAAR

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In every seriously diseased heart, its normal structure is more or less changed, even though its marvelous powers of adaptation and recuperation may allow it to carry on its work for a long while. While this change can only be guessed at during life, it can be accurately determined by post-mortem examination, and in this way the physician can not only tell what was the exact trouble with the patient that he has lost, but be better able to treat those still under his care. It is for this reason that autopsies should be performed (as they are in some countries) on all persons dying of heart disease.

The heart is a very efficient four chambered pump for forcing the blood through the circulation. It is made up mostly of complex layers of muscles, with four sets of valves and with a thin delicate lining (endocardium) and covering (pericardium).

Most diseases of the heart are inflammatory—whether of the muscle itself (myocarditis) or its surrounding envelope (pericarditis), or the lining of its chambers or valves (endocarditis). Any one of these parts may be attacked by the germs of disease, such as rheumatism, pneumonia, tuberculosis, syphilis, or by the poisons produced by the germs, such as diphtheria or typhoid, in such a way

that the person either dies in the acute attack or more frequently recovers with a heart damaged by fibrous tissue. Now this fibrous tissue has the property of gluing together parts that should glide smoothly over each other or of gradually contracting so that the delicate machinery of the valvular pump is upset with far-reaching consequences.

The other important way in which the heart becomes diseased is secondary to changes in the coronary arteries. These are the branches of the aorta (the main artery of the body) which carry the blood supply to the heart itself. When they become sclerotic, that is, inelastic and brittle and of reduced calibre, the heart muscle fibres are not sufficiently nourished, so that they dwindle or disappear and are replaced by fibrous tissue. A branch of the artery may even become entirely plugged, in which case a large section of the heart muscle may die; or, if it happens suddenly, the muscle may rot and tear—the patient dying literally of a “broken heart.”

To mention some of the commoner changes that may occur:

In acute inflammation of the pericardium, fluid may accumulate in the bag in which the heart works (a kind of dropsy of the heart sac), or the normal smooth surfaces may be covered with rough layers, which make them resemble a “cat’s tongue” or buttered bread when two layers have been pulled apart, or even a shaggier appearance. If the disease becomes chronic, fibrous tissue grows in and causes adhesions or even complete obliteration of the sac. In tuberculosis of the pericardium, this membrane instead of being the thickness of a sheet of paper may become an inch or more thick, with big cheesy masses.

When the endocardium, or inner lining of the heart, is damaged, it usually occurs on the valves, which is the reason for calling valvular disease of the heart by the name “endocarditis.” Here again, fibrous tissue results in the chronic cases and when this shrinks, as it always does, the valves become distorted or incompetent, and like any pump when its valves are out of order the heart does not work so efficiently.

As a result of this handicap, the heart muscle adapts itself by becoming bigger and stronger (known as “cardiac hypertrophy”) and as long as it can keep even with the strain, practically no harm results. But sometime it eventually fails to keep up with the extra demands, so that a condition of relative “heart failure” results.

In the acute forms of valvular heart disease, wart-like growths or “vegetations” appear on the valves, which may reach the size of a small marble, or they may occur as rows of minute glistening beads. Sometimes they ulcerate, even forming holes in the valves. In the chronic fibrous forms, the valves may be retracted to mere bands, or may be glued together, so that only a “button” hole slit is left.

As a result of this damage the rush of blood past the obstruction or the reflux through the leaking valves causes audible murmurs, which are of great aid in diagnosis. They are not, however, of great practical significance, until the condition of heart failure is superposed.

The heart muscle (myocardium) undergoes many changes that cannot be taken up here. In older people, it may decrease to less than half its normal size, which is about 8 ounces ("brown atrophy"); or for various reasons, some of which have already been given, it may become four or five times its normal size ("bovine heart")—up to two or three pounds. In cardiac dilatation, the weight of the heart may be normal or even increased, but the size of the cavities is greatly increased and they are surrounded by a greatly thinned muscle wall.

Actual examples of all these and many more changes can be found in any pathological museum; and although they then represent the condition found at the time of death, we know that the same thing may exist, often for years, in the living heart.

THE HOSPITAL FOR CHILDREN CONVALESCING FROM HEART DISEASE

By

CLAYTON McMICHAEL, Chairman

Committee on Institutional Care

To that vast hoard of unspecialized individuals that fall into the category of laymen, the intricacies of medical treatment are, in the main, a mystery. A few there be, more fortunate than the rest, who, through the kind offices of some professional crone, have after patient instruction, been made to understand certain salient medical facts. There are not many, however, who, themselves unafflicted by disease, take the trouble to investigate what the medical profession has accomplished and is accomplishing toward the alleviation of human ills.

Don't misunderstand me. I am not flaying my fellow laymen for their apparent indolence in this regard; I am merely calling your attention to the existence of this indolence. Nor do I deplore the fact that it exists. What use the family physician, if we ourselves knew as much as he? What use the surgeon, if as individuals we could with safety wield the surgical knife?

There is, however, one type of medical treatment so readily comprehensible to the layman, that it is apt to draw his interest and, providing he has a fair degree of the spirit of human kindness, not only hold his interest but fan it into keenness; I refer to convalescent care.

We are all reasonably familiar with what convalescent care is and no one who is at all interested in it can for long fail to observe the great benefits to be received from it. Rest, good food, fresh air and a sufficient amount of diversion to keep the mind of the patient from brooding; that is convalescent care, and that for 200 children threatened with or suffering from heart disease, has in many cases cured them and in almost all cases improved them to such an extent that they have been able to resume natural and useful lives.

At Wynnefield, on the outskirts of Philadelphia, in a building owned by the Children's Hospital of Philadelphia, the Philadelphia Heart Association operates a convalescent home for children, and

here it is that a staff consisting of a superintendent, trained nurse, and two assistants (untrained) and a visiting physician, has been able to accomplish the results related above. The capacity of the home is only 20 patients, and during the two years since opening 193 patients have been cared for. The chart shows the routine followed in the treatment of these children.

DAILY PROGRAMME

7 to 7.30	Taking temperatures
7.30 to 8	Breakfasts
8 to 9	Bathing and dressing
9 to 10	Porch, exercise, games, music etc.
10 to 11	School
11 to 11.15	Taking temperatures
11.15 to 12	Rest period
12.15 to 1	Dinners
1.30 to 3	Rest period
3 to 3.30	Taking temperatures
	Fruit
3.30 to 4.45	Porch, exercise, games, music etc.
4.45 to 5.15	Rest period
5.15	Suppers
6 to 6.45	Story hour and Radio
6.45 to 8	Taking temperatures and preparations for bed.

In addition to the outlined treatment, the Association also operates on its property an Annex. To this building are brought for week-end visits all patients that have been discharged over three months. In this way our physicians are able to follow up the progress of these children and the results of our care. In many cases it has been found that a word of advice given after a thorough examination has saved the patient from a return of the disease, and in other cases, when the patient's condition has been greatly improved, greater activity has been permitted.

We take the liberty of calling your attention to this branch of the work of the Philadelphia Heart Association, because we feel that you will be interested and we are anxious to encourage your interest. It is the type of work that has a very strong appeal, because of the satisfaction to be obtained from results. No one can help feeling gratified when he can observe almost daily the results of his efforts, and when we see an emaciated little child built up in mind and body and gradually brought back to a normal healthy condition, we cannot fail to be interested and to feel anxious to continue our efforts.

THE IMPORTANCE OF INSTRUMENTS OF PRECISION IN THE STUDY OF HEART DISEASE

By

DR. THOMAS M. McMILLAN

Physician in Charge of the Heart Station, Philadelphia General Hospital

The study of heart disease has recently been given a great impetus. This has been due in no small part to the newer knowledge of cardiac physiology and pathology that has been accumulating apace. And this advancement may be justly attributed to the development and use of instruments of precision.

There is hardly a field of medicine where more bizarre and incoherent explanations have held sway than in the cardiac irregulari-

ties. When all this chaos was at its height, it occurred to Sir James MacKenzie to study the arterial and venous pulsations. To do this he devised the instrument that we know today as the polygraph. Through the aid of this instrument and by brilliantly practical reasoning, he worked out the mechanism and importance of most of the cardiac irregularities.

The next step in the development of instruments of precision was the perfection of the electrocardiograph by the Dutch physiologist, Einthoven. Through the use of this method, MacKenzie's brilliant discoveries have been so extended that it is fair to say that, with these instruments of precision, all cardiac arrhythmias can be diagnosed. What is of perhaps even greater import is that we have learned much of their importance and prognostic significance.

In large hospitals the electrocardiograph has almost entirely superseded the polygraph as the graphic method of studying the heart's action. This is because it gives us practically all the knowledge that the polygraph does and tells often much more concerning the state of the cardiac muscle than the polygraph does. Moreover the electrocardiographic method is not so time-consuming, nor is it so open to errors of technique as used in large hospitals. For these and other reasons the electrocardiograph, when available, is the method of choice for the graphic examination of the heart. But it is to be remembered that the polygraph is no less valuable because an additional method of study has extended the knowledge the polygraph gives us.

The expense and bulk of the electrocardiographic outfit will prohibit the extensive use of this method except in large centers. If graphic methods are to be extensively applied in the study of heart disease, the polygraph must continue, for years at least to be a very important instrument.

We should like to devote the remainder of this short communication to a plea for a wider use of the polygraph wherever the electrocardiograph is not available, and to a suggestion as to how a more universal application of this method might be secured in the study of heart disease in Pennsylvania. It probably is true that skilled physicians can correctly diagnose perhaps 80% of cardiac arrhythmias clinically. But what of the other 20% that require some instrumental method for correct diagnosis? A life may depend on the proper treatment of an arrhythmia. These disturbances cannot be properly treated until they have been correctly diagnosed. A certain percentage of the irregularities require the use of the electrocardiograph or polygraph for their correct diagnosis.

What steps can be taken to render these instrumental methods more available? A suggestion we offer is that there be organized throughout the state several centers equipped with a polygraph, a technician to operate it, and a physician trained to give an interpretation. With such an organization the technician could go reasonable distances, secure polygraphs, and return them to the physician for diagnosis in a reasonably short time. We suggest units of this sort, rather than that individual physicians secure their own polygraphs, because of the saving in expense, the practice and technique

necessary to secure good polygraphs, and above all because of the experience and training required for the correct interpretation of polygraphs. The interpretation of polygraphs is a more difficult matter than is the reading of an electrocardiograph.

We make this suggestion as a temporary expedient against the day when the string galvanometer will be more widely used and the findings revealed by the electrocardiograph will be more available.

It seems to us that, as the work of the State Society for the Study, Prevention and Relief of Heart Disease becomes clarified, the incorporation into its plans of some such scheme as we have outlined offers no insuperable obstacles.

THE VALUE OF GRAPHIC HEART RECORDS

By

DR. S. CALVIN SMITH

Philadelphia

The customary methods of heart appraisal have been supplemented and reinforced by the recent introduction of graphic methods of heart study.

So valuable has the method proven that there is a rapidly growing number of physicians who decline to give an opinion as to whether or not a heart is affected, until it has been investigated by cardiographic methods.

The American Medical Association presented a special exhibit of modern methods of heart study at the meeting held in Chicago, last June, thus recognizing the clinical value of such methods. World-wide recognition has just been given the subject by the awarding of the Nobel Prize in Medicine to the Dutch Physiologist, Einthoven, who devised the electrocardiograph. Heart records are therefore a timely matter for discussion in *The Listening Post*.

This article aims to present the fundamental principles of cardiography in an elemental way. In the space allotted we will consider only electrocardiography, as this is clinically the most important of the three methods of graphic heart study.

WHAT IS AN ELECTROCARDIOGRAM?

An electrocardiogram is a written record of the path taken by the impulse for contraction as it courses through heart tissue.

WHAT IS THE PHYSIOLOGIC BASIS OF ELECTROCARDIOGRAPHY?

The contraction impulse, which produces each and every beat of the normal heart, always travels along a definite neuro-muscular pathway, called the conduction system. The conduction system is the recently discovered intra-cardiac nerve mechanism of the heart. One part of this specialized tissue originates the impulse; other parts conduct the impulse; still other divisions distribute the impulse—and thus the rhythmical contraction of the normal heart is main-

tained by the integrity of the conduction system, which is intimately distributed in the heart muscle. Hence the conduction system is the physiologic basis of electrocardiography.

It is the spread of this contraction impulse in various heart structures that the electrocardiogram records.

THE NORMAL HEART RECORD

There need be no confusion about the new language of this new subject. We all have known, from our freshman year, that the auricle contracts, and that shortly after the ventricle contracts. Then there is a pause, called diastole; and the auricle contracts again, followed in turn by the ventricle, followed by another rest period; and thus the rhythmical pumping of blood from the ventricle into the blood vessels continues. Now, this auricular-ventricular activity is exactly what you see in the written records here presented for study.

Notice the normal records at the top of each illustration. At the extreme left there is a small, rounded elevation, which represents the wave of auricular activity; Einthoven named it the "P" wave. Then there occurs a tall spike, caused by the activity of the lower end of the ventricles; Einthoven called it the "R" wave when he first discovered it. Immediately after another wave begins to slowly rise, and this is probably due to the impulse at the upper ends of the ventricles; Einthoven chose to designate this the "T" wave. Notice now a flat base line, devoid of waves; this is the period of heart rest, called diastole. Then systole again begins, starting with a P (auricular) wave, followed by the R and T (ventricular) waves,—and so the heart beat is recorded.

We have only to bear in mind that the auricular wave is called the P wave and that the ventricular waves are the R-T waves. If we remember this, all will be clear in the consideration of the abnormal records in this article. Further note that all the waves, normally, are an equal distance from each other and that all three are normally directed upwards.

VENTRICULAR PREMATURE CONTRACTIONS

The clinical value of such a record as shown in Figure 1 lies in having distinguished between premature contractions of the auricular type and the "extra systoles," as they are sometimes called, of the ventricular type.

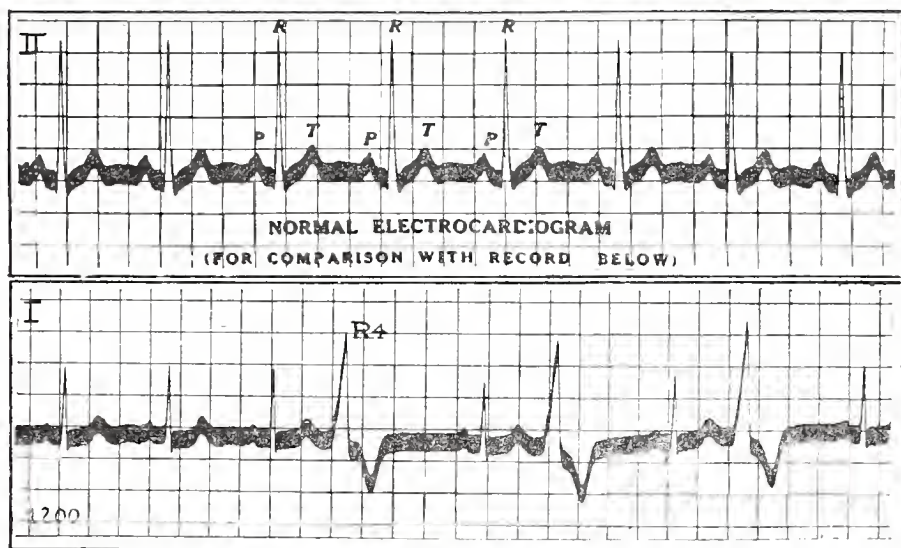


Fig. 1.—Ventricular premature contractions: The fourth R (ventricular) spike in the lower record is distorted and occurs in advance of its anticipated interval, shortening the usual flat rest period between beats. It is followed by a longer diastole than usual, called the “compensatory pause.” R waves 6 and 8 are also premature.

It is not possible to make a clinical distinction between those which arise in the auricle and those which arise in the ventricle. A patient should not be dismissed with the statement that “she only has extra systoles.” Certainly a premature contraction in the auricles—the atricular reservoirs—is not so serious as one in the ventricular pumping station. And of those which arise in the ventricles, the one which is likely to most disturb the systemic circulation arises in the left ventricle. The distinction between these so-called “extra systoles” can only be made by graphic study, thus establishing the clinical value of heart records in such instances.

AURICULAR FIBRILLATION

What is the clinical value of the record shown in figure 2? Auricular fibrillation indicates serious heart muscle damage, whether it be transiently caused by toxins or permanently established as a result of chronic myocarditis. Now it happens that auricular fibrillation is often counterfeited clinically by multiple premature contractions; sometimes they can be differentiated only by cardiographic methods. When fibrillation is present, the indication very often is for massive doses of digitalis; if the distinction has not been made, and large doses of digitalis are given when the irregularity is due to multiple premature contractions, the heart would probably protest in a most alarming manner.

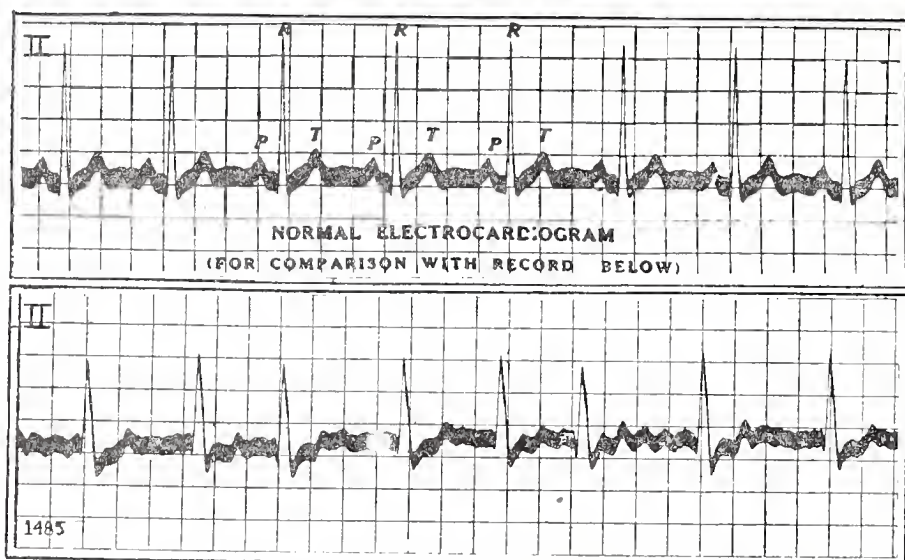


Fig. 2.—Auricular fibrillation: Despite the fact that the pulse beats in the lower record are fairly regular, as shown by the R (ventricular) spikes, auricular fibrillation is definitely established by the absence of regularly recurring, definitely formed and evenly spaced auricular (P) waves in front of the R spikes.

HEART BLOCK, INCOMPLETE (PURKINJE BLOCK)

Just how could a record such as is shown in figure 3 benefit a physician in the care of a patient? In incomplete heart block digitalis may make the patient infinitely worse, by converting an incomplete into complete block. There is no way of certainly recognizing heart block of any degree except by an electrocardiogram. Hence one cannot intelligently treat heart block unless he knows the degree of block. Thus the clinical value of cardiographic methods as concerns treatment becomes apparent.

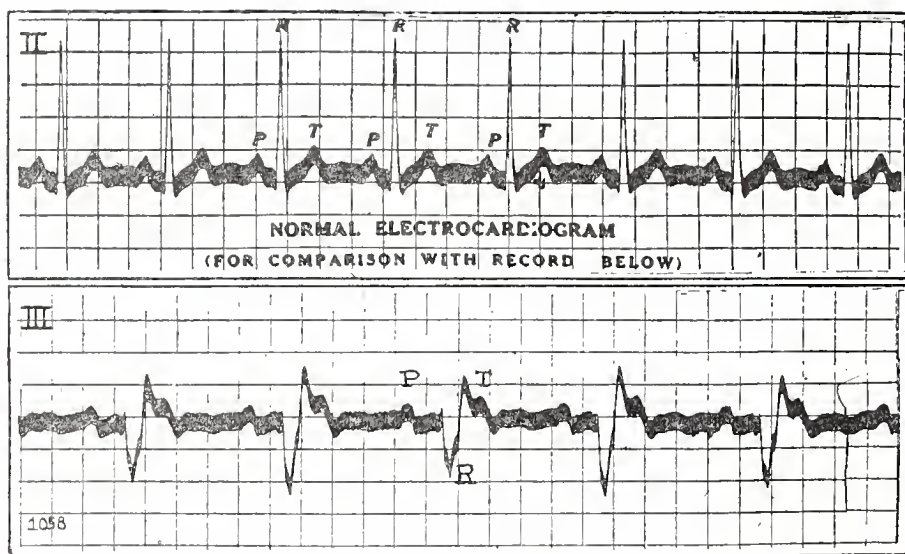


Fig. 3.—Structural change in heart muscle: "Chronic myoearditis": Because the ventricular muscle was diseased, the passage of the ventricular impulse was so delayed that the usually slender R spike (directed downward in this instance) is broadly spread out at its base; also, the distance from the beginning of the P (auricular) wave to the beginning of the R (ventricular) wave is much longer than normal, a further indication of delay in the passage of the impulse. Such a condition could be clinically suspected perhaps, but when it is established by a heart record, there is no longer room for doubt.

The illustrative electrocardiograms, small in number though they are, warrant the following conclusions concerning the clinical value of graphic heart records:

1. Cardiography will enable the physician to distinguish between pulse irregularities that are not serious, as in premature contractions, and those which are indicative of grave heart muscle fault, as auricular fibrillation and heart block.

2. In persons who have none of the usual clinical evidence of heart defect and who are up and around, graphic heart records may establish the presence of serious heart disturbance and thus furnish the indication for heart care and treatment which could easily result in the prolongation of life.

3. Cardiography is a guide in the selection of cardiac drugs.

4. It is a definite aid in arriving at the prognosis in an affection of the heart.

5. Electrocardiography is the one method of heart study which in many cases gives incontrovertible evidence of heart muscle disease.

6. It is possible, by written heart records, to detect heart affections that cannot be recognized by any other method of examination, despite the practiced skill of the physician. Thus cardiography is of importance in any examination where a knowledge of the physical fitness of the individual is of first consideration.

COMMUNICABLE DISEASES IN PENNSYLVANIA OCTOBER, 1924

By

DR WILMER R. BATT, Director
Bureau of Vital Statistics

The communicable diseases of childhood are almost entirely responsible for the increase in the morbidity rates for the month of October. This condition occurs annually, coincident with the opening of schools.

A total of 7,890 cases of communicable diseases was reported, an increase of 3,403 as compared with the month of September. Urban cases increased 2,576 and rural cases increased 827. The percentage of increase in urban areas was about equal to that of rural areas.

Diphtheria increased 359 as compared with September. Urban cases increased 308 and rural 51. The rate per 100,000 of population for urban districts was 13.69 as compared with 8.94 in September. In rural districts the rate was 8.32 against 6.40 in September. The disease occurred in 58 counties.

Scarlet fever increased 766. Urban cases increased 548 and rural cases increased 218. The urban rate was 14.81 in October as compared with 6.36 in the preceding month. The rural rate was 16.37 as compared with 8.17 in the preceding month. The disease was present in 59 counties.

Typhoid fever cases decreased 49, of which 26 were urban and 23 rural. The urban rate in October was 3.26 and in September it was 3.67. The rural rate was 3.72 in October and 4.59 in September. Compared with October 1923 there were 81 less cases reported, and with October 1922 there were 162 less cases. This disease was present in 50 counties.

An increase of 416 in measles is shown and 1,295 in chickenpox. Whooping cough decreased 34.

There were 28 cases of smallpox reported for the month as compared with 32 in September and 27 in October 1923. Cases for the month were located as follows:

URBAN			URBAN		
<i>Locality</i>	<i>County</i>	<i>Cases</i>	<i>Locality</i>	<i>County</i>	<i>Cases</i>
Carnegie	Allegheny	1	Pottsville	Schuylkill	4
Pittsburgh	Allegheny	1	St. Clair	Schuylkill	2
Lilly	Cambria	6	Oil City	Venango	1
Palo Alto	Schuylkill	1			
			Urban total		16
			RURAL		
			Allegheny		3
			Blair		1
			Cambria		5
			Schuylkill		3
			Rural total		12
			State total		28

As compared with 53 cases of anterior poliomyelitis in September, there were 29 in October, located as follows:

URBAN			URBAN		
<i>Locality</i>	<i>County</i>	<i>Cases</i>	<i>Locality</i>	<i>County</i>	<i>Cases</i>
Pittsburgh	Allegheny	1			
DuBois	Clearfield	1			
Benton	Columbia	1			
Catasauqua	Lehigh	1			
Bradford	McKean	1			
Milton	Northumberland	1			
Philadelphia	Philadelphia	4			
Shenandoah	Schuylkill	1			
			Urban total		11
			RURAL		
<i>County</i>	<i>Cases</i>	<i>County</i>	<i>Cases</i>		
Bradford	1	Iycoming	2		
Cambria	1	Montgomery	2		
Fayette	1	Montour	4		
Indiana	1	Northampton	1		
Lancaster	2	Somerset	1		
Lebanon	1	Westmoreland	1		
			Rural total		18
			State total		29

Eight cases of encephalitis lethargica were reported from the following locations:

URBAN			URBAN		
<i>Locality</i>	<i>County</i>	<i>Cases</i>	<i>Locality</i>	<i>County</i>	<i>Cases</i>
Pittsburgh	Allegheny	1			
Erie	Erie	1			
Philadelphia	Philadelphia	4			
Warren	Warren	1			
			RURAL		
			Westmoreland		1
			State total		8

Communicable diseases for October, by urban and rural districts, showing a comparison with the corresponding month of the preceding year:

	<i>Total</i>		<i>Urban</i>		<i>Rural</i>	
	<i>Oct. 1924</i>	<i>Oct. 1923</i>	<i>Oct. 1924</i>	<i>Oct. 1923</i>	<i>Oct. 1924</i>	<i>Oct. 1923</i>
All diseases	7,890	8,392	6,011	6,062	1,879	2,330
Actinomycosis .....	.....	1	.....	1	.....	.....
Anterior poliomyelitis	29	45	11	28	18	17
Anthrax	1	3	1	3	.....	.....
Cerebrospinal meningitis	5	14	4	8	1	6
Chickenpox	1,522	1,372	1,129	1,146	393	226
Diphtheria	1,109	1,907	888	1,374	221	533
Erysipelas	41	49	36	46	5	3
German measles	37	19	27	11	10	8
Leprosy .....	.....	1	.....	1	.....	.....
Malarial fever	3	4	.....	4	3	.....
Measles	617	1,037	449	553	168	484
Mumps	780	282	566	210	214	72
Pellagra .....	.....	1	.....	1	.....	.....
Pneumonia (true)	300	290	295	289	5	1
Puerperal fever	1	6	1	6	.....	.....
Scarlet fever	1,396	1,389	961	932	435	457
Smallpox	28	27	16	22	12	5
Tetanus	4	8	4	6	.....	2
Trachoma .....	.....	2	.....	2	.....	.....
Tuberculosis	496	471	471	445	25	26
Typhoid fever	311	392	212	201	99	191
Whooping cough	1,077	883	822	617	255	266
Impetigo	67	101	64	75	3	26
Scabies	53	65	43	59	10	6
Ophthalmia	5	14	4	14	1	.....
Syphilis .....	.....	.....	.....	.....	.....	.....
Encephalitis lethargica	8	9	7	8	1	1

DEPARTMENT NOTE

A LETTER

Oct. 23, 1924.

Dear Doctor:

Our board has just installed a Dental Hygienist on a ten months' basis. Miss Grace Geary is at work cleaning the children's teeth and giving them dental instructions. The parents are cooperating 100%. Everybody is quite enthusiastic over this recent forward step made by Munhall in the interest of our children.

Very truly yours,

CHARLES R. STONE,
Supt. of Schools.

LISTENING POST

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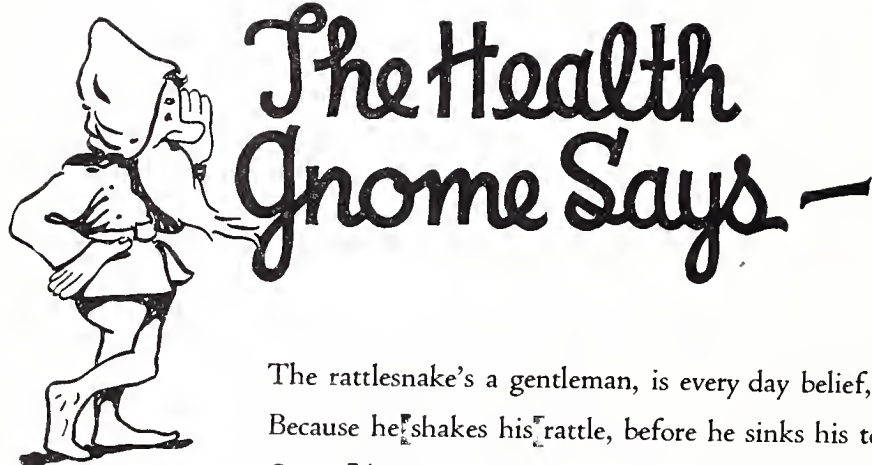
By The Pennsylvania Department of Health

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The rattlesnake's a gentleman, is every day belief,
Because he shakes his rattle, before he sinks his teeth.
Cancer doesn't rattle, but "give the deil his due"—
It sounds a timely warning, the rest is up to you;
A sore of long time standing, or a lump that won't go 'way,
Should send you to your Doctor, with least possible delay.

The Listening Post

A MONTHLY JOURNAL OF PUBLIC HEALTH

Editor
William C. Miller, M. D.

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"Acceptance for mailing at special rate of postage provided for in section 1103,
Act of October 3, 1917, authorized April 6, 1923."

This number of the "Listening Post" is largely devoted to Cancer, one of the degenerative diseases so frequently referred to in this Journal as certainly fatal, if unattended, and preventable, if discovered and treated in time.

In sympathy with the laity for whom this publication is primarily intended, a glossary has been prepared, so that the reader may not be lost in a maze of technical words.

Read every article carefully: they are all well worthwhile and then act, if you feel you have reason to. Remember that Cancer is one of the main reasons for the campaign for 70+, which means a health examination on your birthday.

If you are over forty and have a lump or sore that doesn't get well, go to your family doctor. It may not be cancer, may never be cancer, but it will pay to find out.

W. C. M.

THE PUBLIC HEALTH NURSE AND THE CONTROL OF CANCER

By

DR. J. M. WAINWRIGHT, Chairman,

Committee on Health and Public Instruction of the Medical Society of the
State of Pennsylvania.

Everyone connected with the Public Health Department Work in Pennsylvania knows all about the tuberculosis menace and knows how much time, money and personnel are devoted to fighting it.

Cancer is in many ways a greater menace now than tuberculosis is. It kills more people in the State every year than tuberculosis does and, furthermore, the cancer death rate is increasing just about as fast as the tuberculosis death rate is diminishing.

Up to the present time, it has not seemed practical for state or city health departments to take up active organized work against cancer, though this will soon come. In the meantime there are few people who can do more to check cancer mortality than the public health nurse.

The crux of the problem as far as she is concerned is right here. We do not know the specific cause of cancer and hence we have no specific cure, such as a serum. We have no medicine which cures it. The only thing we do have is surgery, radium, X-ray, destruction by electricity or other physical agents which will entirely remove or destroy the cancerous growth.

Also, most important, is that cancer always has two stages. In the first stage the disease is purely local and is easily and permanently curable by the most appropriate of the above methods.

In the second stage the disease has spread to some distant part of the body and then there is no available treatment and the case is hopeless. The opportunity of the public health nurse is plain. Help find cancer cases in the curable stage and see that treatment is started at once. Every time you do this, you will add another to the lives you are now saving. People do not die from cancer, they die from delay. They die because they have not known the symptoms that indicated the cancer, while it was in its curable stage, and nobody has told them about it.

How are you going to suspect that a person into whose house you have been called for some other purpose has an early cancer and is terribly in need of proper advice? That is easy because practically every cancer advertises its presence by signs or symptoms while it is in its early curable stage. These early warning signs and symptoms have aptly been called danger signals. The most important are:

DANGER SIGNALS

1. Breast—any lump. It is true that many lumps in the breast are not cancer, but any lump may be, so that it should be examined at once by a competent doctor. If every woman who notices a lump today should go to a competent doctor tomorrow, very few would die of cancer of the breast.

2. Uterus—Irregular bleeding. Any bleeding outside of menstruation is the danger signal here. This bleeding may be continuous or intermittent. Sometimes for a long time it is only a little occasional "spotting." Other danger signals in the uterus are the onset of a discharge in a woman who has previously been free from it, or, if a woman has always had a discharge, if it becomes more profuse, more irritating or blood tinged.

3. Skin and mucous membranes. Any sore or crack that does not heal promptly, especially if, as in the mouth, it is where it is irritated by a sharp dirty tooth. Second, any wart or mole that suddenly begins to grow bigger, or blacker or begins to bleed.

4. Alimentary tract. Persistent "indigestion," persistent colicky pains. Blood in vomiting or in stools. Persistent attacks of alternating constipation or diarrhea.

So there you are armed with a knowledge of the danger signals and of the danger of delay. You have your opportunity. Scores of people in the houses into which you go will tell you of these danger signals long before they will take the trouble to make a visit to a doctor or a clinic. Take them in hand at once and see that they go to a competent doctor or the nearest available clinic. Follow them up. Call a week later and see if they have really gone to the doctor or the clinic as you told them. See if they follow the advice they received. If the doctor passed the matter off lightly, did not make a thorough examination, or said, "It is only the menopause," or "Go home and forget it," or "Don't bother it until it bothers you," you can be sure that the patient did not have a square deal. Do not let them slip through you into the incurable stage.

THE THINGS YOU WILL HAVE TO GUARD AGAINST.

A woman will tell you that "this lump cannot be a cancer, because it never pains." Pain is never a symptom of early cancer. It never comes until late. To wait for pain is to wait for a symptom of impending death.

2. Do not let a woman drag you into her delusion that her irregular bleeding or her onset of a discharge are due to her menopause. These things never are part of the menopause, if the pelvic organs are healthy. If a woman's pelvic organs are healthy, she goes through the menopause with no local pelvic symptoms. If she does have symptoms, get her to find out what is the matter before it is too late.

Few people have the opportunity and privilege to do a greater good to a greater number than the public health nurse. Take on your cancer charges and save them too.

SOME FACTS REGARDING CARCINOMA OF THE STOMACH

By

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We are today in possession of facts regarding carcinoma of the stomach which are of the greatest importance to the medical profession at large. First of all we know that of all forms of carcinoma this type represents about one-third. It has been estimated there are probably at the present time 300,000 potential cases of cancer, of which about 100,000 are gastric in type. It is probable that about 35,000 persons die annually in the United States of this disease, and yet, if diagnosed early enough, this disease can as surely be removed as carcinoma in any other part of the body.

The three outstanding features which have impressed the medical profession regarding this disease are: first, the fact that surgery is today the only real cure of gastric carcinoma; secondly, that if the diagnosis of the disease is made in a sufficiently early stage, surgery offers an absolute cure; and finally it is possible to make this diagnosis in the very early stage by means of the modern methods of investigation at our disposal.

The surgeon today stands ready to do a partial gastrectomy which, in its essential details, is as radical a cure as is the total ablation of the growth in any other part of the body. Why then is it that so few cases are turned over to the surgeon at a time when surgery can cure and the patient can be relieved?—and, why is it that the medical profession as a whole has adapted a pessimistic attitude toward the question of gastric carcinoma? The fault does not rest entirely with the medical men, nor is the fault to be found entirely with the patient. As I see it, the following points serve in a sense to throw light on this problem. The first and, in my own experience, the foremost reason for late diagnosis is the fact that the patient does not present himself for examination at a period early enough in the disease for the physician to make a definite diagnosis. There are probably two reasons for this. One reason is that in more than one half the cases the disease has already existed from several months up to eight months before the patient is convinced that anything is wrong. In not a few instances a carcinoma is found while a survey of the patient is being made for some other condition. It is therefore this latent period in which symptoms slowly evolve that is the dangerous one in this disease, dangerous because it represents the transition from an absolutely curable to an incurable disease. It requires no stretch of the imagination to realize that unless the growth affects the orifice, or is in the antrum, or near the pylorus, symptoms are particularly slow and insidious in onset. I have seen large growths in the mediogastric region with almost no clinical symptoms, and I have seen growths of this nature produce practically no disturbance in gastric evacuation. The recognition by the public that any persistent gastric disturbance after the age of thirty-eight to forty which does not readily and rapidly respond to medical treatment calls for an exact analysis of the stomach will undoubtedly result in the earlier recognition of gastric cancer. Schutz in a recent communication pointed out that it was apparent from recent statistics that women were affected more frequently than was formerly supposed. Another point which modern medicine emphasizes is the fact that the disease affects people earlier in life. This may be due to better methods of diagnosis. There are some forms of carcinoma which are apparently not diagnosable by any means at our disposal. I can recall one case in which every method of examination was absolutely negative, but there was a mass in the liver. At operation there were two very small smooth plaques in the gastric wall. As Dr. Kennedy, the surgeon, expressed himself, "It would have been impossible to make the diagnosis without actually feeling the wall." These cases fortunately are rare. The second reason is equally important. The medical profession has been taught that the diagnosis of gastric carcinoma is based upon a series of symptoms and findings nearly all of which are late manifestations. The finding of cachexia, anemia, persistent anorexia, nausea, vomiting, palpable tumor, anacidity, and persistent occult blood in the movement, are symptoms which are extremely valuable, but, unfortunately, usually associated with a rather advanced lesion, frequently inoperable in type. Anyone who does much of this work will be convinced that when the physical signs of gastric carcinoma become apparent the disease is well under way, and that only early diagnosis offers any real chance for surgical cure. The point which

I have attempted to emphasize with my students has been the fact that no physician however well trained can do more than suspect the presence of a lesion in its very early stages. After the study of this condition from every possible angle, I unhesitatingly say that the early diagnosis of gastric carcinoma by ordinary physical means, such as inspection, palpation and percussion, is next to impossible. In a recent large survey in one of the greatest surgical clinics of America, only 66 percent of gastric carcinomas was palpable as a ridge or tumor, and yet most of these were far advanced in type. It is therefore essential that we demonstrate the presence of this disease before the palpable stage. On the other hand, modern X-Ray technique, both by fluoroscopic and plate procedures, offers the surest and most reliable means of diagnosing early cancer of the stomach. It not only reveals the position of the growth, but the extent of the growth. Carman of the Mayo Clinic states that 96 percent of all carcinomas of the stomach is diagnosable in this way, and a survey of all the available sources of information emphasizes the fact that about 95 percent can be shown by means of X-Ray examination. Cheever, Bost. M and S. J., 190:401, Mar. 6, 1924, points out that in 97 percent of cases the X-Ray gives reliable evidence of the disease. The average family physician is certainly handicapped in making such a diagnosis when even the highly trained internist alone with the ordinary means at his disposal cannot safely diagnose this disease in its earliest stage. There is therefore one method at our disposal today which enables us to make a sufficiently early diagnosis, and that is the intelligent use of the X-Ray in expert hands. This can be supplemented by intubation, gastric analysis, the search for occult blood, and the various means at our disposal for demonstrating a lesion in the stomach wall. In my own experience I can only recall two cases within recent years where subsequent operation revealed a failure in this method, and in both cases the findings at operation were such as to make it impossible to make a diagnosis by any method or procedure. If, therefore, it is possible to diagnose carcinoma by X-Ray examination alone, what are the aspects of the lesion? First, a definite defect, more or less characteristic in type, fixed, persistent, and showing no alteration after the administration of antispasmodics, together with the alterations in the gastric wall which are associated with the presence of such a defect. The demonstration of the defect of carcinoma, which varies greatly depending on the type of the disease, may be made not only by ordinary fluoroscopic examination, but by the serial film procedures which are used at the present time. In a recent communication I pointed out the necessity for examining the stomach in every possible plane. A mere anterior-posterior examination will fail to demonstrate lesions in the anterior and posterior wall. It therefore becomes a necessity to study the stomach not only in that position, but laterally. In the last two years I had two cases of a primary lesion in the posterior wall which could not be demonstrated in any other way. Secondly, it is of importance to examine both the dome of the upper pole of the stomach and the pylorus in the recumbent position. Certain defects can be demonstrated in this way, and in no other. I can recall one case in particular, which came to the operating table and even eluded the surgeon, which was a carcinoma of the cardia, smooth and plaque-like, but which later

produced wide spread changes. With modern technique, it is possible to get a clean cut outline of the stomach in every plane, and if the roentgenologist unhesitatingly states that there is no evidence of carcinoma by careful fluoroscopic and film procedures, one can rest assured almost without exception that no such disease exists. Personally, I would unhesitatingly accept a negative X-Ray report if the examination had been properly performed. It may not be possible by this procedure to demonstrate a mucosal ulcer, but the difficulties in demonstrating a mucosal ulcer are to my mind far greater than those associated with demonstrating a fixed lesion with a more definite defect such as early carcinoma. We can look forward to a more extensive survey of the stomach by this means, although routine X-Ray examination is the practice in all modern institutions today. There is no doubt in my mind that no other method can show with the same degree of precision the alteration in form, mobility, and contour of the stomach, and as we know, the most important thing that carcinoma does is to alter the internal contour. There are some observers, Schindler for instance, *Arch. Int. Med.*, 32: 635, Oct. 15, 1923, who claims to diagnose this disease by the use of the gastroscope. In 400 observations he claims to have demonstrated 25 cases of carcinoma and one case of sarcoma. This method, however, will never be a popular method and it is questionable whether or not such a method could make as rigid and complete an exploration of the stomach as does the modern X-Ray technique.

There are several conditions, however, which must be differentiated from carcinoma. In my experience one of these is gastric syphilis. Gastric syphilis can occasionally show exactly the same roentgenological findings as gastric carcinoma. If, however, one adopts the rule of making a routine Wassermann in every demonstrable organic change in the stomach, it will not be difficult to differentiate this type of disease. I mention this fact only because clinically, the appearances are so very different. The individual with gastric syphilis is undoubtedly in good health and the associated phenomena are different, although from the study of gastric analysis, gastric syphilis can give an anacid very similar to that seen in gastric carcinoma. Gastrosplasm will frequently show a similar picture and we now realize that partial or even total gastrosplasm can occur. Adhesion formation to the antrum, reflex conditions from the gall bladder, benign tumors, gross alteration of the stomach from peri-gastritis, deforming ulcer, and malignant ulceration, all call for a part in the differentiation between carcinoma and other lesions.

Gastric analysis approaches the subject from a different angle. Gastric analysis has for its important function the determination of gastric work. If properly done it simply answers three important questions regarding the stomach. In the first place, it estimates mucosal function in terms of secretion. We know that the most important thing regarding gastric carcinoma is the fact that it produces a downward trend in secretion. In the second place it estimates the work of the muscle layers and sphincters in terms of gastric evacuation and the degree of food chymification. In the third place, it demonstrates the presence of any pathological exudates, such as pus, blood, mucus, bacteria, and the presence of retention or stagnation. There has been a great difference of opinion regarding the findings in gastric carcinoma. It has usually been

considered that in the average case there is an anacidity together with the presence of blood, mucus, and pus, and in retention cases the presence of the organic acids of fermentation. A survey of a large number of carcinomatous cases, however, demonstrates that by no means all show a low degree of acidity. It is true that sooner or later all cases tend to the final or eventual anacidity. Hartman, however, of the Mayo Clinic demonstrated in a study of 551 cases of gastric carcinoma and 80 cases of carcinomatous ulcer operated on at the Mayo Clinic between 1918-20 that achlorhydria was found in little less than one half the cases, while normal or even hyperacidity existed in even one fourth the cases. In gastric analysis studied without any reference to the position of the lesion, 53.72 percent had an achlorhydria; 15.78 percent had free HCl in small amounts. In 17.42 percent the gastric acid was normal, and in 4.58 percent there is hyperacid figures. In malignant ulceration 22.5 percent had hypoacid figures and 72.5 percent showed acidity of various grades. Friedenwald and Bryan, J. A. M. A., 83: 265, July 21, 1924, report acidities in 100 cases of gastric cancer by fractional analysis. They show that 52 percent showed anacidity, figures which exactly correspond to those of Hartman; 62 percent showed hypoacidity, 26 percent normal acidity, and 6 percent hyperacidity. Unfortunately, I have been unable to gather my own complete statistics, but I can say without the question of a doubt that only about one half the cases of gastric carcinoma show a complete anacidity, that a reasonably large proportion show a definite secretory output which is commensurate with the fact that the disease by no means has markedly involved the mucous membrane. In all probability, the earlier the diagnosis, the higher the acidity. I have diagnosed gastric carcinoma with a total acidity of 77, and I have seen cases where the acid output was within normal bounds. We are not yet in possession of exact information regarding the exact way in which carcinoma reduces the acidity. However, there is a number of points of importance regarding the gastric analysis. In the first place, it produces a definite downward trend in the gastric secretion, more pronounced as the disease progresses. Sooner or later there is a subacid delayed secretory curve. I have seen the evolution of this curve and I have followed the evolution of gastric carcinoma of the moderate subacid to the complete subacid. There is usually an increase in combined acidity. There may or may not be a motor delay. Bennet, for instance, in England points out the great value of micro retention in the morning on the fasting stomach, and points out the value of a charcoal meal on the night before. There is usually, however, a minimal delay with micro retention and with the presence not infrequently of mucopus. The carcinomatous stomach is prone to bleed on slight provocation, but this is also true of gastric syphilis and infected gastritis. Unaerated diffuse, mixed pus throughout the entire gastric digestive cycle is found in but three conditions,—gastric syphilis, infected gastritis and gastric carcinoma. In the former, there is a positive Wassermann and an X-Ray defect; in infected gastritis, there is a negative Wassermann and a negative X-Ray finding; and in gastric carcinoma there is a positive X-Ray defect and a negative Wassermann. There have been many tests devised which are more or less specific. Wiener points out the value of the estimation of total chlorine in the gastric contents.

The presence of soluble albumin is now the basis of many communications. Clarke and I pointed out that a definite increase in soluble albumin in the absence of hemorrhage is very suggestive of carcinoma, particularly if the soluble albumin curve increases distinctly toward the end of digestion. In view of the fact that this is no place for a discussion of the technique involved in the demonstration of carcinoma, I would prefer to discuss simply those points which seem to me so important in the discussion of this subject. I believe that there are two points further which have very definitely impressed me in this work. One is that any demonstrable defect ought to be rerayed in a period not exceeding two weeks. Medical men fail to realize the rapidity with which carcinoma can occur. I have seen defects which have remained latent for sometime and suddenly assumed a marked acceleration in growth. We must take the stand that any definite defect in the gastric contour after the age of forty is carcinoma until proven otherwise, and any defect which is at all suspicious should be studied at two week intervals. Gain in weight is by no means evidence that the disease is not malignant. I have repeatedly produced a gain in weight even in inoperable cases, so that to me this finding is by no means evidence that the disease is not a malignant one. Another point which has impressed me in several isolated instances is the necessity for early and rapid intervention in all cases where the diagnosis is almost assured. We must realize that a carcinoma has not only great potentialities for rapid growth, but that no method that we possess today enables us to tell at what point metastasis might occur. In other words, it is better to commit a sin of commission than omission.

My own experience in this line of work has taught me the extreme importance of the following points:

1. Carcinoma of the stomach according to the most reliable statistics is absolutely curable by surgery in its early stages.
2. Early diagnosis is the most important point in the approach to the question of gastric carcinoma.
3. Now the X-Ray technique in expert hands enables us to make a diagnosis even in the early stages in about 95 percent of all cases.
4. The demonstration of a definite defect of the well known carcinoma type should be considered malignant until proven otherwise and should be treated by radical measures as soon as circumstances justify such a procedure.
5. The necessity for immediate operation after a reasonable diagnosis will certainly enable us to save more of these cases.
6. No physician however skilled can make an accurate diagnosis of carcinoma of the stomach in as early a stage as the X-Ray can demonstrate its presence.
7. The routine description of carcinoma as exemplified in most text books gives a series of symptoms most of which are too late to enable the patient to be brought to the operating table with a reasonable chance of a cure.

8. Early diagnosis is often impossible owing to the fact that there is a latent period in the development of the disease in which the symptoms are vague and generalized rather than local and definite.

9. Any patient of carcinoma age who fails to react promptly to remedial measures should be immediately subjected to a complete survey of the stomach by the means suggested above.

10. A physician has reasonably discharged his obligations to his patient if routine X-Ray studies, gastric analysis, fecal analysis, and the general survey are entirely negative. His chance of missing an accurate diagnosis of this lesion by such technique is probably less than 5 percent.

11. In doubtful cases reray or a general re-survey should be made in not less than two weeks.

12. The rapidity with which the disease evolves renders immediate operation imperative when once the possibility of this diagnosis is apparent.

13. An error of commission is far better than an error of omission, but all studies emphasize the fact that the error of omission is far more frequent than the error of commission.

14. Every gastric ulcer is a possible focus of malignant degeneration. At least 2—3 percent of all gastric ulcers become malignant. This imposes the burden on the medical man of a frequent re-survey of any patient who has had gastric ulcer at or near the cancer period.

15. Duodenal ulcer rarely ever becomes malignant, and the possibility of carcinoma in these cases is relatively remote.

16. An X-Ray study of the stomach must include an investigation of the organ in every plane so as to reveal the exact contour of the organ not only in the anteriorposterior position, but also in the lateral plane and in the recumbent position as well.

17. The demonstration of any organic defect in the gastric wall calls for a routine Wassermann examination.

18. Gastric analysis demands an accounting of mucosal function and demonstration of mucosal work and sphincteric control and the evidence of any pathological exudate, such as pus, blood, mucus, bacteria, and the possibility of retention. In the study of carcinoma it also demonstrates the determination of the protein concentration of the secretion.

We must not forget that early carcinoma can exist without any alteration in these factors, but sooner or later as the disease progresses, disturbances in all three directions can occur.

BONE TUMORS

By

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Tumors are much more frequent in bone than usually is realized. Most of them are primary in bone; but metastatic malignant growths are often encountered.

Benign tumors are of two main varieties: (1) the exostoses and chondromata which spring from the surface of bones, especially near the epiphyseal lines; and which are more or less pedunculated, though immovably attached to the bone and (2) central tumors, which gradually expand the cortex, finally thinning it until it may present eggshell crackling when palpated, and which may ultimately break through this thin bony shell and invade the soft parts. Such tumors are some form of bone cyst or "giant cell tumor".

Benign tumors are characterized by their slow growth (years, rather than months); absence of pain unless pressing on a nerve trunk or so large as to protrude beneath the skin; bony or cartilaginous consistence (except in the rare cases of central tumors which, when of very long duration and very large, may cause absorption of the overlying bone cortex); and freedom from recurrence when thoroughly removed. They never cause metastasis while benign, but in patients well past the age of adolescence, they may become malignant at any time.

X-Ray examination of bones with benign tumors shows well the outlines of the more or less pedunculated exostoses, as well as the cystic nature of the central tumors. But the true nature of these latter, (whether cystic in the sense of containing fluid or merely cystic in appearance because of the absence of bone salts) can be certainly determined only at operation. The "giant cell tumors" may look just as cystic as "bone cysts" or as cases of "fibrous osteitis"; but they seldom or never occur in the shafts of the bones as do pure cysts, but only near the ends; and they cause an abrupt expansion of the overlying cortex, not a fusiform enlargement as do bone cysts.

Many benign tumors of bone require no treatment. If the diagnosis remains in doubt, a surgeon may be invited to remove a piece of tissue for histological study. If symptoms persist and are disabling, an exostosis may be removed along with a large section of the cortex from which it springs; recurrence is very unusual. Central benign tumors should be opened and thoroughly evacuated; if the curettement is thorough, it is not likely that cauterization is of any value. Hemorrhage from the interior of the tumor may be profuse, and the surgeon should be prepared. It is best whenever possible to close without drainage, crushing in the walls of the expanded bone, or filling its cavity with bone transplants. Should recurrence follow an incomplete operation, a second attempt at cure by curettement may be attempted; but in some cases, especially in the upper limb, where the expanded bone causes marked deformity, formal resection of the end of the affected bone is better; then the form of the limb must be maintained by transplanting bone. Amputation is preferable in the old, or in recurrences in the lower extremity.

Malignant tumors in bone are either primary in the bone or metastatic from some primary focus elsewhere. Malignancy is characterized by rapid growth (weeks or months, not years); pain, infiltration and invasion of surrounding soft parts; metastasis especially by the blood but also by the lymph stream; central degeneration and cyst formation (the result of rapid growth destroying the blood supply to the centre of the tumor); and finally by necrosis

and ulceration of the overlying soft parts. They usually recur locally if excision is attempted; and death from metastasis and cachexia is the almost invariable termination. Cachexia is due to three main causes: (a) anemia from the parasitic growth of the tumor depriving the patient of a certain amount of his proper nutriment and from hemorrhages; (b) toxemia, from secondary infection; and (c) intoxication, from the perverted metabolism attendant upon the tumor growth.

Malignant tumors which are primary in bone almost always grow beneath the periosteum and cause absorption and destruction of the bony cortex. The more bone there is in a tumor, the less malignant it is. Sarcoma in one or other of its varieties is the most frequent primary malignant tumor in bone. It forms a firm, fibrous tumor, immovable upon the underlying bone, growing upon one aspect of the bone and not completely encircling the shaft; usually near one of the ends of a long bone, and never entirely bony to palpation. In case of doubt as to the rapidity of its growth, its circumference should be measured at weekly intervals. As it grows larger it obstructs the deep circulation and its surface becomes covered by enlarged veins. The first symptom frequently is pain, and unless the limb is carefully examined and studied by the X-Ray, the existence of a tumor may be overlooked for many weeks. It is not always easy to distinguish an early sarcoma from a case of subacute osteomyelitis. In both there is pain, there may be some fever and a moderate leukocytosis. In both there may be a history of recent injury. But osteomyelitis, unless originally acute and yet neglected, is confined to the interior of the bone; while sarcoma grows from the cortex and forms a firm, fibrous, but never a bony swelling. In case of persistent doubt, exploratory operation may be done; and whatever tissue is found should be placed in 10% formalin and sent to a competent pathologist for study.

Almost all sarcomas eventually prove fatal. A few patients have remained well for many years after early amputation; but when a pathologist learns of such a fact, he is inclined to doubt the accuracy of the original diagnosis, even if made by himself. Hence, in most cases, amputation is to be regarded merely as a method of promoting the patient's comfort during the remaining months which he may be expected to live. It relieves him of pain, of the likelihood of recurrence in the stump, and of local infection and hemorrhages. He usually lives in comfort until pulmonary invasion makes itself evident a few weeks before death by shortness of breath and spitting of blood. X-Ray examination of the chest should be made always when the patient is first seen, as an aid to prognosis; but evidence of pulmonary invasion, unless very far advanced, does not affect the propriety of the local treatment already recommended. If amputation is not done, the limb should be properly splinted to prevent pathological fracture. Under no circumstances should massage of the tumor be allowed; this promotes metastasis and hastens death. Radiotherapy and the use of Coley's fluid hypodermically have proved at least of temporary value in many cases.

Metastatic growths in bone are characterized above all else by pain and pathological fracture. Sometimes pain is temporarily re-

lieved when an incomplete fracture occurs. Most of these lesions are due to invasion by carcinoma which has been or is still present in the breast, prostate, thyroid, uterus, adrenal, etc. These fractures seldom unite firmly enough to give a useful limb. In many cases, especially in the lower extremity, prompt amputation promotes the patient's comfort.

CANCER, PATHOLOGIC DIAGNOSIS.

By

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Repetition of clinical facts concerning cancer is warranted by their direct or indirect relationship to the practical application of pathologic diagnosis.

Cancer, or carcinoma, is a malignant growth derived from the skin, mucous membrane or glandular tissues. It represents an abnormal cellular overgrowth which gradually infiltrates and destroys the surrounding tissues and eventually may spread to far removed parts of the body resulting in their destruction and finally in death.

At the beginning, however, the cancer is more or less localized and if recognized at this time and removed may be totally eradicated, a comparatively simple surgical procedure. The importance, therefore, of early diagnosis can be readily perceived. Unfortunately, however, the clinical diagnosis is often uncertain and sometimes impossible in its differentiation from common swellings or simple ulcers, etc. But a relatively rapid growth and persistence in spite of ordinary treatment, especially in a patient over forty years of age, should always make the physician suspicious and should warrant further steps to make the diagnosis certain.

This is simplified to a large extent by the pathologic diagnosis. Early biopsy or removal of a portion, or all of a small tumor, should be practiced and the specimen submitted for pathological examination. The value of this procedure to the patient and to the physician making a diagnosis, especially in the early stage of suspected cancer cannot be overestimated. In the large majority of cases the diagnosis is assured, in some, corroborative in its significance and in all, a guide to the future conduct of the treatment of the case. Moreover, it can be done in most instances without any considerable pain or injury to the patient.

Under local anaesthesia, the suspected growth is first cleaned with soap and water and rendered sterile by the application of a reliable disinfectant. A portion of the growth may then be removed by simple surgical procedure. It is important to procure a good-sized piece of the tumor, preferably where the new growth is most evident, and to take in a goodly portion of the underlying and outlying apparently normal tissue, when this can be done without causing any undue or inadvisable mutilation.

The specimen should be placed immediately in a suitable container (State Outfit No. 3) and be immersed in 4 to 10% formalin solution.

The vial should be tightly stoppered, packed in the mailing case, together with the clinical data and request card, and sent to the laboratory as soon as possible and as rapidly as possible.

The clinical data with the specimen is of as much importance to the physician for final interpretation and, therefore, intelligent care of the case, as to the pathologist who is called upon to give his knowledge toward the diagnosis of any particular case. As the physician uses all the symptoms of a case, both subjective and objective, together with the history of the patient, to build up an accurate clinical diagnosis, so the pathologist interprets more intelligently those objective signs represented in a pathologic specimen the more associated data he is given.

It is important, therefore, that the physician should state:

1. Name and age of patient.
2. Exact location of part of body from which the specimen was taken.
3. Nature and duration of the growth.
 - a. Whether it was of rapid or slow growth.
 - b. Approximate size of tumor.
 - c. How long the growth has existed.
 - d. Whether the tumor is movable or fixed.
 - e. Whether the tumor is attached to the skin.
 - f. Whether it is primary, recurrent or metastatic.
 - g. Whether there is any evident involvement of surrounding tissues.
4. The probable clinical diagnosis.

With this data before him, the well-trained pathologist can obtain most accurate interpretation of what he sees in the specimen and consequently give to the physician the most intelligent, reliable, and, therefore, useful diagnosis.

PATHOLOGIC PROCEDURE.

1. Specimen received in laboratory is recorded in full with filing and check numbers.
2. The macroscopical examination and diagnosis are made and recorded, including size, consistency, general appearance, regularity or irregularity, degree of degeneration and state of preservation.
3. The specimen is next cut into small pieces of about one eighth to one quarter of an inch in thickness and several of these sections are placed in water containing a small amount of ammonia, for a few minutes, to soften, where necessary.
4. The sections are then dehydrated by passage through 50%, 95%, and absolute alcohol for two or three days, or longer, if the nature of the specimen demands.

In case of bone, or cartilaginous tissue, the specimen must be decalcified by means of weak hydrochloric acid before dehydration. This takes one to three weeks.

5. Sections are clarified in chloroform and Xylol and then placed in Xylol and paraffin and finally imbedded in paraffin in an oven at 50°C. for a few hours.

6. The sections mounted in paraffin, hardened in a water float, are then cut in very thin slices 4 to 6 microns in thickness by means of a microtome.

7. The thin sections are placed upon glass slides, sealed in place by heat and stained with haemotoxyline and eosin and mounted in balsam.

8. Examination is made by microscope and the histopathologic diagnosis determined.

9. The result of the examination is recorded and a report duplicating the record is sent to the physician upon the same day.

For the ordinary case, the diagnosis from the time the specimen reaches the laboratory should be three to four days.

So long as the medical science is devoid of a definite combative cure for advanced cancer, the early diagnosis by means of histopathologic examination will hold a place of paramount importance and every physician should, wherever this is physically possible, forestall serious malignant involvement in the patients under his care by adopting the above method in all its details.

GLOSSARY OF TECHNICAL TERMS.

Achlorhydria—Absence of hydrochloric acid in the gastric juice.

Adrenal—a gland situated near kidney.

Anacid—without acid.

Anorexia—lack of appetite.

Antispasmodic—remedy acting against spasmodic attacks.

Antrum—a cavity.

Benign—mild.

Cachexia—a deteriorated state of the general health occurring as a result of organic disease.

Carcinoma—cancer.

Cellular—pertaining to a cell or to a tissue or objects composed of cells.

Chondromata—cartilage tumor.

Chymification—food in liquid state.

Cortex—outside layer.

Cystic—Consisting of or containing a cyst (fluid growth).

Decalcified—deprived of lime.

Dehydrated—the act of depriving a chemical compound of water.

Duodenum—upper portion of small intestine.

Epiphyseal—portion of a long bone formed at either extremity from secondary or tertiary center of ossification and united to a shaft during early life by an intervening layer of cartilage which in time ossifies.

Exostosis—a bony outgrowth or enlargement projecting outward from the surface of a bone.

Fusiform—spindle-shaped.

Gastrectomy—the operation of excising (cutting out) the whole or a portion of the stomach.

Histopathologic—the study of the microscopic change observed in sections of diseased tissues or organs.

Hypoacidity—deficiency of acid.

Intubation—treatment by inserting a tube into an opening.

Leukocytosis—formation of white blood corpuscles.

Macroscopical—easily seen with naked eye.

Mediogastric—middle stomach.

Metastatic—the sudden subsidence of an inflammation, with the appearance at the same time of inflammation in another part, not structurally connected with the first part diseased.

Necrosis—death of cells.

Orifice—opening.

Osteitis—inflammation of bone.

Osteomyelitis—inflammation of the marrow of the bone and bone itself.

Pathologist—one who is versed in the science of the nature of disease.

Percussion—tapping on the surface overlying a part or organ in order to ascertain conditions by sound.

Pedunculated—being supported.

Perigastritis—around stomach.

Periosteum—membrane around the bone.

Pylorus—opening of the stomach into the small intestine.

Sarcoma—cellular tumor.

Sphincter—circular muscle.

VACCINATION.

By

DR. REA PROCTOR McGEE,

Pittsburgh, Pennsylvania.

A disease that strikes without warning and either causes death or permanent disfigurement is not a good thing to cultivate in any community. Nobody objected to the extermination of poisonous reptiles and so far as I have heard, no one has objected upon either high or low moral grounds to the reduction in the number of highwaymen. When it comes to combating successfully a terrible scourge like smallpox by means of vaccination, it is amazing to find that there are yet educated people who prefer smallpox to safety. Even this would not be so bad if the objectors endangered only themselves, but unfortunately the contagion is so active that every unvaccinated citizen is a menace to the others. Vaccination was the first genuine prophylactic that man discovered. Smallpox was so prevalent at one time that it was just as sure as taxation, even as sure as the income tax and far more expensive.

“The practice of vaccination was introduced into this country by Dr. Benjamin Waterhouse, Professor of Physic in Harvard University, who, on July 8, 1800, vaccinated his seven children, with six positive results. About the same time it was introduced into Philadelphia by John Redman Coxe, who vaccinated his eldest child and then exposed him to smallpox without result. In Boston, in August, 1802, 19 boys were vaccinated successfully at a temporary hospital on Noddle Island (now East Boston), and in November

these and one other who had been vaccinated two years previously, were inoculated with smallpox, but in no case was the disease produced. Two unvaccinated boys were inoculated at the same time, and both developed the disease. In 1806, Thomas Jefferson, who was the first to introduce the practice in the south, wrote to Jenner: "You have erased from the calendar of human afflictions one of its greatest. Yours is the comfortable reflection that mankind can never forget that you have lived. Future nations will know by history alone that the loathsome smallpox has existed, and by you has been extirpated." "

Like all other procedures, the operation of vaccination has been improved and likewise the preparation of the vaccine has become more accurate. For many years vaccination was rather severe, but in these days it is usually very mild. Even the scar is no longer unsightly.

Vaccination prevents smallpox. It is our duty not only to submit ourselves to vaccination, but to encourage them to comply with the laws both of common sense and the State.

—Official Bulletin Odontological Society of Western Pennsylvania.

COMMUNICABLE DISEASES IN PENNSYLVANIA NOVEMBER, 1924

By

DR. WILMER R. BATT, Director,

Bureau of Vital Statistics.

A total of 11,514 cases of communicable diseases was reported for the month of November, an increase of 3,624 as compared with the preceding month, October. Urban cases increased 2,887 and rural cases increased 737. Urban cases increased 48%, while rural cases increased 39%.

The following are the principal increases noted:

Chickenpox	1,611	Diphtheria	186
Mumps	738	Whooping cough	124
Scarlet fever	552	Pneumonia (true)	56
Measles	530		

There were also the following decreases:

Typhoid fever	131
Impetigo	48
Tuberculosis	36
Anterior poliomyelitis	17
Smallpox	11

Diphtheria occurred in fifty-seven counties, Scarlet fever in 61, and Typhoid fever in but 42.

The increase of 552 in Scarlet fever included 510 in urban districts and 42 in rural districts. The State rate was 21.3 per 100,000 of population against 15.3 in October, urban rate 22.7 against 14.8, and rural rate 18.0 against 16.4.

Diphtheria's increase of 186 included 136 urban and 50 rural. The State rate was 14.2 compared with 12.1 in October, urban rate 15.8 compared with 13.7 in October, and the rural rate 10.2 compared with 8.3 in October.

Seventeen cases of Smallpox reported for November included 12 urban and 5 rural, as follows:

<i>Urban</i>			<i>Urban</i>		
<i>Locality</i>	<i>County</i>	<i>Cases</i>	<i>Locality</i>	<i>County</i>	<i>Cases</i>
McKeesport	Allegheny	1	Lilly	Cambria	3
Pittsburgh	Allegheny	3	Portage	Cambria	2
Williamsburg	Blair	1	Wilkes-Barre	Luzerne	2
		<hr/>			<hr/>
			Urban total		12
<i>Rural</i>					
	Armstrong	1			
	Cambria	2			
	Westmoreland	2			
		<hr/>			
			Rural total		5
			State total		17

Twelve cases of Anterior poliomyelitis reported for the month were located as follows:

<i>Urban</i>			<i>Urban</i>		
<i>Locality</i>	<i>County</i>	<i>Cases</i>	<i>Locality</i>	<i>County</i>	<i>Cases</i>
Swissvale	Allegheny	1	Hughesville	Lycoming	1
Altoona	Blair	1	Williamsport	Lycoming	1
Corry	Erie	1	Philadelphia		3
Erie	Erie	1			<hr/>
		<hr/>			
			Urban total		9
<i>Rural</i>					
	Crawford	1			
	Cumberland	1			
	Monroe	1			
		<hr/>			
			Rural total		3
			State Total		12

Eight cases of Encephalitis were reported from the following locations:

<i>Urban</i>					
<i>Locality</i>	<i>County</i>	<i>Cases</i>			
Pittsburgh	Allegheny	1			
Philadelphia		5			
Warren	Warren	1			
		<hr/>			
			Urban total		7
<i>Rural</i>					
	Bucks	1			
		<hr/>			
			Rural total		1
			State total		8

Communicable diseases for October, by urban and rural districts, showing a comparison with the corresponding month of the preceding year:

	<i>Total</i>		<i>Urban</i>		<i>Rural</i>	
	Nov. 1924	Nov. 1923	Nov. 1924	Nov. 1923	Nov. 1924	Nov. 1923
All diseases	11,514	12,303	8,898	9,279	2,616	3,024
Anterior poliomyelitis	12	31	9	21	3	10
Anthrax	1	1	1	1	0	0
Cerebrospinal meningitis	5	7	4	4	1	3
Chickcupox	3,133	3,452	2,469	2,782	664	670
Diphtheria	1,295	2,164	1,024	1,648	271	516
Erysipelas	64	61	50	59	14	2
German measles	84	40	70	27	14	13
Leprosy	0	1	0	1	0	0
Malarial fever	0	3	0	3	0	0
Measles	1,147	1,832	878	1,226	269	606
Mumps	1,518	564	1,091	420	427	144
Pneumonia (true)	356	404	344	387	12	17
Puerperal fever	2	3	2	3	0	0
Scarlet fever	1,948	1,914	1,471	1,300	477	614
Smallpox	17	7	12	6	5	1
Tetanus	0	6	0	4	0	2
Trachoma	1	0	1	0	0	0
Trichiniasis	0	2	0	2	0	0
Tuberculosis	460	494	443	463	17	31
Typhoid fever	180	230	100	136	80	94
Whooping cough	1,201	889	863	606	338	283
Impetigo	19	114	13	102	6	12
Scabies	53	78	37	73	16	5
Ophthalmia	10	5	9	5	1	0
Encephalitis	8	1	7	0	1	1

Pennsylvania has experienced a most gratifying condition during 1924 from the standpoint of sickness and death as compared with the previous years. The indicated general Death rate will be 12.5 per thousand of population as contrasted with 13.3 for 1923. Relatively this means more than 7,000 fewer funerals.

Of particular interest, in view of their past importance and the intensive effort directed against them, are deaths from tuberculosis and the diseases of early life. The death rate from tuberculosis of the lungs will approximate 71 per 100,000 of population as compared with 75 for the preceding year, and the infant mortality rate will approximate 80 per 1,000 births as compared with 88. In 1906 a similar rate for tuberculosis was 130, and for infant mortality 167.

Typhoid fever, which was responsible for 4,000 deaths per year in 1906, contributed but 340 last year. It has ceased to be a serious factor in death rates but must continue to be the subject of anxious supervision in so far as water and food are concerned.

As an index of effective sanitary effort the causes mentioned are outstanding.

The great causes of mortality are heart disease, pneumonia and violence. The first two are somewhat inevitable, as a larger proportion of our people are living to more advanced ages. At present these causes comprise one fourth the total mortality.

It we can learn to filter our air, as we have our water, travel a little bit less on high gear, and "watch our step" when traveling we will go a little bit farther and last longer.

The Birth rate of 24 per 1,000 of population for 1924 will be on an equality with the rate for the previous year, but the net gain to our population through excess of births over deaths will be considerably increased by the reduction of infant mortality.

One hundred and fifty thousand persons were married during the past year on licenses issued within the State. The rate of 16 per 1,000 of population indicates a healthful social condition. If, however, the experience of the previous years is to prevail, 10% of these marriages will be dissolved for one cause or another. A panacea of this condition may be found in the various forms of intoxication rather than in sanitation.

TOURISTS' ETIQUETTE

A party of motor tourists, passing through Everett, liked the looks of our community and turned into the curb and parked on the Main street. They looked around and commented on the general good appearance of the business section of the city. If at all observant, they saw clean streets, well-kept mercantile establishments, attractive show windows and prosperous looking people going about their business. But were they observant? It was about noon. Time to eat, they thought. So the family lunch basket was dragged out from the inner recesses of the touring model and the faces of the tourists glowed in anticipation of the pleasure that was to be theirs in consuming the noon-day meal. Package after package and bundle after bundle came into view. It looked like Thanksgiving. The first parcel was opened, the paper and string wadded together and thrown into the street. The same thing happened after each successive package was opened. The meal was being eaten amidst a running comment about incidents of the automobile trip. Out went a paper plate over the side of the car into the street. Then another paper plate followed and soon some paper cups. Paper napkins came to join their paper brothers and fall victims to the wind, which lay in wait to pick them up and deposit them at some store entrance. Their hunger satisfied, the tourists departed. They had no more use for this community, having used its public square for a camping ground. They left behind an unsightly pile of debris as testimony of their appreciation for the privilege of being permitted to dine on the principal street. When you go touring, don't be guilty of such an offense against common decency. Have enough respect for any community not to litter up its streets. Keep the cast-off articles and burn them when you reach the country. You expect as much of those who pass through here.

—The Everett Republican.

THUMB MARKS ON THE HEALTH BOARD RECORDS

By

DR. DAVID W. HORN,

Chemist, Milk Control District No. 1, Ardmore, Pennsylvania.

The pages frequently referred to, and carefully perused, in any book, are thumb marked. And on such thumb marked pages in Health Board records are difficult questions and notable procedures. To you, Ladies and Gentlemen, composing a group of Health Board employes and employers your program committee has suggested that the speaker offer a few practical suggestions upon some of these questions and procedures.

I. The Health Board's Position in the Government.

The most important and most inspiring page, which should be referred to repeatedly until it is understood, is that setting forth the position in government of a local Health Board. Health Boards are the special agents of the State in the local exercise of a part of the State's POLICE POWER.

The POLICE POWER as affecting persons is the power of the State to protect the public against the abuse of individual liberty; that is, to restrain the individual in the exercise of his rights when such exercise becomes a danger to the community.

This POLICE POWER, in so far as it is delegated to Health Boards, is delegated to them by a special act of assembly, in which Enabling Act the limits of power bestowed are always broadly defined. This Act is, in the last analysis, the most definite limit that is to be found to the powers of a Board of Health.

Within these limits set by Statute, the Board is further limited practically by what the Court calls, broadly, reasonableness,—which will be referred to later.

The noteworthy feature of the Health Board is the concentration of enormous power in its hands,—greater power (within the limits of its jurisdiction) than is met with in any part of American Government lying outside the Police Power. You will find that the Constitution of the United States separately and distinctly sets forth

in Article I. A Legislative Department, vested in a Congress of the United States;

in Article II. An Executive Department, vested in a President of the United States; and

in Article III. A Judicial Department, vested in one Supreme Court and such inferior courts as Congress may establish.

Throughout our National government, and also throughout our State government, these three functions of government are always maintained independent of each other,—the Legislative, the Executive and the Judicial.

But in a Health Board in local matters, these three functions of government are practically combined. Each Health Board makes its own rules and regulations (later enacted by Council or Commission); it then carries them into effect (through its own agents); and lastly, in its public hearings given to those summoned to show reason why they should not be prosecuted and in those hearings to which the public is specially invited to discuss some proposed or pending new rules the Board acts as a judicial body.

It should be fully understood that such a combination of POWER is not only unequalled in any other part of American government, but that it also exists only locally, that is, within such a small radius that every individual affected can have easy and immediate access to those thus entrusted with such unusual powers. It is well always to remember that such a concentrated and powerful government

depends (as do all governments), solely upon the consent of the governed. Therefore, throw your meetings open to the public and press. You can go into Executive Session any time occasion demands.

II. Special Officers of the Board.

Heavily thumb marked is the page on Special Officers.

A. The Medical Officer. A recent example of the need of a local Board for such an officer includes the following circumstances: a child reappeared in school after illness and was sent home as desquamating. The physician called, found that his diagnosis of scarlet fever was unacceptable in the home. The Health Board sent its Medical Officer then, who confirmed the diagnosis and through the Health Officer established the quarantine contemplated in the law.

Health Boards have practically always the right to investigate doubtful or suspected cases, and the best agent for the purpose is a Medical Officer. He may or may not be a member of the Board. But he ought to be paid by item or by piece-work. In this way it is possible to avoid that confusion in the minds of some by which the position of Medical Officer is mistaken for a political job and a part of the spoils system. The advisability of this method of recompense can scarcely be overemphasized; it is not only the most economical method under ordinary circumstances, but it keeps the position free from politics, maintains the proper dignity of the Board, and conserves for his private practice the personal reputation of the physician who thus serves the Board.

B. The Solicitor. The Solicitor should be a lawyer specially versed in the Law of Townships and Boroughs. He should never be one who is seeking political preferment, or free advertising, but a man well established in his practice and in his profession.

C. The Secretary. The power to repeat or reproduce in words any conversation, circumstance, or event, and to do so without distortion, is a comparatively rare gift. The Secretary should be selected with this in mind. When past events come up for review in Court, his record may be the evidence as to those events, and the Board is accordingly misrepresented or not depending upon the correctness of his record. For this reason the minutes of a Health Board should always be read in full, and never adopted unread.

D. The Expert Adviser. Expert advice should be accepted only from a man who can be trusted. And he should be a man who is not too timid to introduce new points of view.

E. The Official Guardian. This is the Pennsylvania State Department of Health upon whom each Board should rely when special questions arise or unusual conditions must be faced. No one else has sufficient power in nuisances and other causes lying upon and on both sides of inter-township and inter-borough lines.

But do not overwork your Official Guardian; your Board is only one of a large number in the State, and the State Department can hardly be expected to carry on its work if swamped by work that should be performed by local Boards for **themselves**.

III. Investigations and other Expert Services.

Here the well thumbed page contains many points. Investigate in person, if possible. Your presence as an official is a powerful argument, just as the presence of the traffic officer in the matter of controlled automobile driving; and first-hand information is the best kind of information you can get. Use persuasion whenever possible.

No opinion should be expressed by an inspector either as to any probable future action by the Board or as to any past action by the Board.

All important communications and reports should be in writing. So should all important opinions. Enter your viewpoint no matter how novel or how unpopular into the records of the Board, in writing. Time will tell. Thus in one township in 1912 a proposed bovine tuberculin test ordinance was entered upon the records, immediately after the favorable decision by the U. S. Supreme Court in this matter. It was not enacted. Public opinion at that time may be judged by the fact that a leading local physician said the test was not yet established as dependable and a leading sanitarian who was a local resident declared he would not permit his own herd to be tested. This was in 1912. In 1921, when the speaker presented the point of view of the local Health Board (which has been thus forced upon the Board) before an assembly of physicians, the point of view was criticised as "provincial." Thus what was too advanced in 1912 was too conservative in 1921—in the same community. Time told; today that community has a tuberculin test ordinance and further, its Health Board enforces it.

Conclusions must be logical. They may at any time be reviewed by others. The speaker recalls a case where a typhoid epidemic was traced for a local Board to a dairy farm, which was accordingly quarantined. Investigation by an outside and competent investigator failed to find any record of typhoid on that farm. He did find one woman ill; she had a floating kidney! I recall another instance where a local Health Board directed a farmer and dealer to discontinue the sale of his milk because they had traced typhoid to it; this dealer disregarded the order of the Board and continued in business. The Board had been misled, the farmer-dealer was not responsible for the typhoid, and the Board dared not attempt to enforce its order.

Persuade by reason whenever possible. But when you must fight, fight to a finish; and make it a one-round affair. This policy may save many hours and dollars otherwise spent in Court action. It may seem unduly vigorous to those present who do not understand, but criticism from those who do not understand is not to be taken seriously. The speaker recalls pushing certain witnesses very hard indeed in a hearing regarding the further use of pasteurizing plants proven by experiment, and known by theory, not to be dependable; a newspaper correspondent criticised this as unfair treatment of less educated men; he did not know that the object was to close the case (which was already established beyond all doubt) at that time, and thus forestall expensive procedures in Court to

establish that which was already proven. It is always rational to proceed in such a way as to avoid paying for that which is already paid for and in hand.

Before the public, always be loyal to your Board. If you cannot be loyal, resign; you are standing in the way of progress. If your Board is such that loyalty to it and its policies be out of the question, then by resigning you will open a place for a man of the Board's own stripe; and the combination therefrom resulting will kill itself and thus stop the evil sooner than you could possibly expect to, singlehanded.

IV. Organized Efforts of Citizens and Quasi-Official Bodies.

Although seldom referred to, the thumb marks show that this page has been carefully studied. It appears that all such efforts of merit should be aided by the Health Board. Such efforts never persist long where a Board is functioning properly, and such efforts often change possibilities into realities long desired by the Board but previously unsupported by public opinion. In due time the Board of Health takes over the control of all such unofficial movements as have sanitary merit. For example, the speaker has seen a Health Board declare by ordinance that the Medical Milk Commission of a neighboring Pediatric Society that certifies milk sold in the Board's jurisdiction "must at all times be satisfactory to the Board." The action was not taken unadvisedly or ill-advisedly or without sufficient reason; a voluntary and quasi-official body cannot reasonably be expected to measure up to the standards as can a legally constituted and responsible arm of the government;—and in this instance, it did not.

V. Milk Work.

In local records this is a well thumbed page. We find it desirable to have a contract at the bottom of each application for milk license, so that the dealer at the time he applies enters into a written agreement to abide by the Health Board's rules and regulations. In sampling, every bottle of milk is purchased and paid for, and written notice of the sale is made out in duplicate, and one given to the vendor and the other attached to the sample. Offenses are the basis of written notices to the dealers, of which notices carbon copies are made and filed. The samples are kept under lock and key from the time they leave the Health Officer's hands until they reach the chemist's hands. For every bottle purchased by the Health Board, thousands have been purchased by the public; so that the chances are that the public suffers many, many times as often as a milk dealer is detected in wrong doing by a Health Board.

Your Health Board should have a rule forbidding the sale of milk containing visible dirt. This is a most sensible and proper prohibition, and a most effective rule in correcting gross carelessness upon the part of a milk dealer. It should also have a rule against misbranding, and should require if possible some numerical statement upon the cap (for example, the minimum percentage of fat) that will show the quality claimed for the milk. Letters such as AA, A and B do not insure the public anything, and the public can be misled by them.

The practice surviving in some places of dividing a milk sample with the dealer is obsolete. It belongs to the days before bacteriological knowledge of milk had developed. Such a procedure is practically impossible and legally unnecessary. Under the rules of our local Health Boards just such exposure and transfer of milk as is an essential part of dividing the sample, is explicitly forbidden by the rules of the Board itself because of the probability of bacteriological infection. As to milks containing visible dirt, they defy equitable subdivision; and the actual subdivision of a dirty milk bottle must be left to the imagination! Judge Bell in the Blair County Court ruled clearly upon this point of giving the defense part of the sample. He did not think, for instance, there would be any warrant for a defendant charged with murder to say, "You must tear that shirt in two, and you must give my chemists one half the alleged blood stains so that they can prepare a defense." Nor would there be warrant for compelling the Commonwealth to give the defendant in any criminal case all the Commonwealth's side of the case so that the defendant "could examine and ransack" while at the same time the defendant was allowed to keep his mouth shut.

VI. Reports and Statistics.

Here is a page in the Health Board's records marked so as to indicate that it has been frequently referred to. Watch your statistics! They are bucking bronchos. The speaker recalls how, a good many years ago, a group of physicians were thrown by their own figures in an argument against the exceptional prevalence of typhoid in their own community. When properly analyzed, their figures supported the fact of the unusual prevalence of the disease.

State facts. In public health work, the facts are strong enough, even if exaggeration were honest. Exaggeration reacts unfavorably upon your Board. Recently in a verbal report made publicly by an officer of local Board, such large numbers of water analyses and milk analyses per annum were stated to have been made, that when the figures were compared with the statement (made by another officer) of the sum of money spent in the work, one was forced to the conclusion that a considerable number of the analyses must have been made without charge, possibly (I venture) by the milk and water companies whose products were reported as sampled.

In published reports upon products of competing dealers, always be sure the results published side by side are comparable. Never print the results on Mr. A's milk in June side by side with those on Mr. B's milk in January. It is better to avoid injustice by publishing the average of the results on successive samples, say samples for four months; and each month strike the new average for that dealer by dropping the result for the eldest month and adding the result for the most recent month. Thus you will avoid the effects of accidents that may happen in any business, and yet set forth with certainty persistent and repeated lack of quality. Use averages that are stated as percentages, if possible; nearly every one who reads learned to read in school, and every one who has attended school understands ratings in percentages. Such ratings for milk as AA, A, and B are without real significance and may be misleading.

VII. Ad Interim Actions.

Usually such actions are the most important and urgent that are to be taken. Act promptly, after consulting (by telephone) with the member of your Board living in or nearest to the district involved; or, after consulting with the President of your Board. For example, in the earliest stages of an epidemic, such as typhoid fever, there is no time to be lost. Lost hours may mean lost lives. There is no time or place for hesitation in a public health emergency. It is better to chance a mistake than a tragedy.

VIII. Prosecutions.

These are the teeth of Health Board rules. They may not be agreeable but they are necessary. In prosecutions, proceed by summons as a courtesy, but send a warrant promptly if the summons be ignored, for after all the legal action is a criminal action. At the hearing, produce evidence, not testimony. Use notes that were carefully written at the time of the event;—such notes as the milk labels previously referred to, and the carbon copies of your warnings. Rely upon numerical standards whenever possible. Do not prosecute unless you have to; but when you do, hit hard; and when necessary, hit hard repeatedly. One of the local Boards this past summer had to abate the flagrant nuisance created by a defiant band of gypsies; at the first hearing when the fine was imposed, the leader said, "Oh, we have a whole automobile full of money. That's all right." At the second hearing the cry was, "Have you no heart? We are poor people." It was impossible to serve papers for a third hearing; the band had departed from the Township.

Insist upon payment of fine and costs, or upon the putting up of substantial security (not less than \$50.00) before you see a convicted defendant dismissed by the Justice of the Peace. If the defendant refuses both, the Justice must commit him to the county jail. If you find you face insuperable difficulties during a hearing, request the Justice to continue the hearing upon another day. Have no fees whatever for any Health Board officer in any action before a Justice of the Peace; if you do allow fees, the defendant will attribute the prosecution to your greed for money.

Never allow a bad Justice of the Peace a second chance to double-cross your Board. It is politically expedient to bring your cases before a Justice in your township or borough, but this is not a legal necessity; you can proceed through any Justice within your county. Never forget a Justice is answerable to the people for his acts, and that malfeasance upon his part is properly made public property; in fact, publicity is sometimes the only way open to correct abuses occasionally indulged in by a few Justices.

Never think you are personally interested in any Health Board case. You are not dealing with personal friends or personal enemies, nor with matters that are in the slightest sense personal. This warning is sometimes overlooked; just a week ago today, the speaker saw a Health Officer of a nearby township appear as the next friend and solicitor to a milk dealer who had to be fined for repeatedly selling skimmed milk during 1924.

Remember you are merely a trusted employee (or appointee), exceptionally trusted by a group of otherwise defenceless people. This group has such a confidence in you and in your integrity that usually they make no effort to see whether you are fulfilling your trust; they assume that you are. You are a dishonest rogue, if you receive the public money and then permit your personal friendships, personal enmities, or personal fears, to influence your course in any Board of Health transaction.

In a dispute before the Law, the Board and the private party have equal rights to be heard, and the (County) Court will require the Board to prove its case, before the Court will give judgment in favor of the Board. But Courts require merely that actions taken and rules passed by Health Boards be demonstrably justifiable and reasonable within the general powers conferred upon the Board by the State in its enabling act; and these requirements are just and can, with care, be easily met.

IX. Administration and Expenditure.

This is the last of the thumb marked pages to which I can refer in the time allotted me. How to spend a small appropriation. Never spread it out thin over the whole possible field. Concentrate upon a limited number of problems of greatest local importance.

Sudden outbursts and widely heralded endeavors are not sustained, the speaker has observed. They are without much permanent result and in the long run lower the dignity of the Board. Any board may well support and assist groups of citizens who rise to "swat the fly" or who foster and conduct a "clean up week", but community life is daily and continuous, and community health is permanently attainable and retainable only by long continued and patient effort involving those slow processes called growth and education.

If your appropriation is too small to successfully attack any single problem of moment in your community, then ally yourself with some stronger Board or Boards—for example join in the Milk Control Area of which Dr. G. W. Grim will give you details this afternoon—and thus reap for your citizens the advantages of strong and effective work at a minimum cost.

It is useless to expect wonderful results in a day. For example, we have now at regular intervals this gathering of local suburban Health Boards. Ten years ago the first meeting of local suburban Health interests of this region (to the best of my information) occurred about the dinner table in the speaker's home, when Dr. B. K. Wilbur, President of the Lower Merion Board, Dr. A. L. Dewees, President of the Haverford Board, Mr. Chas. E. Kremer (since deceased), President of the Narberth Board, Mr. Arthur Shrigley, President of the Upper Darby Board, Dr. Geo. C. Kusel, President of the Swarthmore Board, and your own presiding officer, Dr. Chas. H. Stout, President of the Cheltenham Board gathered in response to my invitation and got acquainted and talked over their most pressing problems together—without any of us having the idea of suddenly bringing into existence a permanent organization like this.

In your public health work you must have the same kind of hope and endurance that belongs with the planting of a seed or the setting of a bulb. Do not expect or await public thanks. The public expects you to do your duty, and it is too busy with the unfaithful to spend much time or sentiment upon the faithful. In time the public may come to look upon you and your work with favor but the public is like a coy child; if you show persistently good deeds, if you strike hard and successful blows at its adversaries, and if you retain and exhibit that great power to bob up serenely with reputation unimpaired after each attack by slanderers, I think you may look forward with some confidence toward a day of recognition and reward.

DEPARTMENT NOTES

Milton State Chest Clinic to be opened January 8th, 1925. Red Cross Health Center Rooms, Elm Street. Thursdays— 2-3 P. M. Dr. William Devitt, Allenwood, Chief. Clinic No. 93.

This refers to Miss Margaret Quinn, State Nurse, Coudersport, Pennsylvania:

One of the grades of our local school was reading recently about Hercules and the twelve difficult and dangerous tasks assigned to him by the great Argive king. Among these was the cleansing of the Augean Stables which had not been cleaned for thirty years. "Well," said one little chap, "I'll bet if Nurse Quinn had been there, they would have cleaned them before that time."

Under the direction of the Secretary of Health, an active campaign is being waged for Diphtheria prevention in Westmoreland, Indiana, Wyoming and Juniata Counties. Already active immunization has been going on in many of the larger towns of these counties. Work is being gradually extended to the rural districts. Encouraging reports are being received from the various local organizations conducting the campaigns.

At the close of December 1924 the Franklin Child Health Centre leads State Clinics in registration, ten hundred and eighty-nine children under six years registered.

Dr. Alex M. Brown, Physician-in-charge, Miss Anna M. Wadlinger, Nurse, Mrs. W. J. Mullins, Chair-woman.

The following promotions in the Nursing Division have been announced:

Miss A. Hitchcock	} Dauphin County
Miss R. Pendergast	
Emergency Service	

Miss Elda Graybill, Snyder County
Instructor Health Officer

Miss A. L. Birkner, Columbia County
Instructor Child Health

Miss Emily Jones, Luzerne County
Instructor Nutrition and Tuberculosis.

Dr. J. M. Wainwright of Scranton, whose article on the Public Health Nurse and Control of Cancer appears elsewhere in this issue, opened the first Clinic for Diagnosis of Cancer in Pennsylvania in the building used by the State Department of Health for its Clinics.

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The Health Gnome Says —

The stork's the bird, as all agree,
That boosts the growth of the family tree;
And whether it brings a he or she,
Or one of each, or even three—
We're just as glad, as glad can be;
For who's so blind, that cannot see
The joy of having a familee ?

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A FEW THOUGHTS ON THE PREVENTION OF INFANT MORTALITY *

By

DR. ALFRED HAND, Jr.,

Professor of Pediatrics, University of Pennsylvania

A favorite remark for one generation to pass on to the next is, "We have seen such great advances and wonderful discoveries in our day that it would almost seem as though the limit had been reached." Applying this to the prevention of disease, I may be pardoned a reminiscence of my first year in the Medical School, our class being the first one in that School, and I think in any, to have a systematic course of lectures on Hygiene, the subject being a major one and the lectures being delivered by a Professor, the first occupant of the chair being the man who was subsequently the first Commissioner of Health of the Commonwealth of Pennsylvania, Samuel G. Dixon, whose constructive work will undoubtedly be of benefit for many years and will outlast the bronze tablet erected to his memory near this spot by grateful patients. But while great advances have been made in Hygiene since then, we cannot claim that the goal has been attained, for the field of preventive medicine has been only scratched and as Billroth expressed it, "The following generations must also have something to do."

It was my fortune, when starting the practice of medicine, to act as quizmaster in Hygiene for several years and one of the axioms of the subject then was, "A high birth rate in a community means a high death rate," the implication being that it was necessarily so and could not be changed. And another axiom was put forth by some who felt that they had thought clear through the subject, that the high death rate of infants was a law of nature by which only the fit survived. The converse of this was recently put to me in a very pessimistic way in a conversation as to the degeneracy of the times; when I had remarked that in one way the present was far better than the "good old days" in that we could cure many more cases of some diseases, e. g., (diphtheria, epidemic meningitis), and could prevent some diseases almost entirely, e. g., (typhoid fever, smallpox), the reply was, "Yes, but that is a bad thing, for you are

saving the unfit." Such a line of argument needs no reply, to my way of thinking. The one with whom I was talking was ignorant of the important fact that a high death rate of infants leaves among the survivors many who are damaged by disease and made unfit for the work of life, and that when the death rate is lowered even if the birth rate is kept up, there is a larger percentage of healthy children and a smaller percentage of the unfit to survive.

Both the above axioms may be challenged by the following statements, first, "A high birth rate need not mean a high death rate," and second, "The high death rate of infants is not a law of nature by which only the fit survive, but it is due to different conditions in nature many of which are preventable and are being prevented and many of those infants who die are not unfit to live but are unfortunate." In illustration of this last point, I have now under my care a nine-months-old infant, the third child of healthy parents; nursed by the mother and thriving up to six weeks ago; the family in comfortable circumstances and able to put the child in a private room in the Hospital, the home being in a small street but not in the slums; the infant developed what was first thought to be a cold, then signs of lung-consolidation appeared, with apparently a crisis of pneumonia later; but a low fever followed, the signs in the chest have persisted, enlargement of the liver and spleen have become evident and the diagnosis now is of a **miliary tuberculosis**, confirmed by a von Pirquet test, **highly positive in ten hours**. This child cannot be classed with the unfit to survive, but is unfortunately the victim of an infection that ought to have been avoided, if the known laws of Hygiene had been observed and if the teachings given to the patients here at Mont Alto and elsewhere could be followed by all the tuberculous everywhere.

In thinking how to approach this subject, I was at first tempted to divide the causes of Infant Mortality under two main heads, the Controllable and the Uncontrollable, but the more the different causes are studied, the controllable becomes steadily larger and the uncontrollable steadily smaller, so that the hope is reasonable that the latter group will disappear in time. But this will not happen in our day and generation, so we must keep unceasingly at the Herculean task of turning a clean river of health through the Augean stable of disease.

It has been well said that the degree of civilization of a community or people may be estimated by a study of the rate of infant mortality and the measures adopted to save the infants. It will therefore be seen at once that two prime essentials are Cooperation and Centralization.

Cooperation is the first requisite if we wish to avoid the state of the three blind men who were asked to describe an elephant; one felt of the leg, one of the tusk and one of the trunk and their descriptions varied accordingly. In like manner, we may suppose three doctors living in the same community and all being actuated by the high ideal of desiring to stamp out disease; one of them has the experience of seeing a number of infants die during an epidemic of diphtheria, the second loses many from summer diarrhea, while the

third encounters a series of infants so feeble from birth that few survive the first week. Each one of them, consequently, might have very different ideas as to the relative importance of various measures of hygiene. But let us suppose that they meet together and relate their experiences; being capable of reasoning, they see at once that the subject has at least three sides and probably more, if the experiences of all the doctors of the community could be collected. So they form a local medical society, but they soon find that they need further cooperation before any constructive work can be done, cooperation from those most vitally concerned, the community itself, and so a Board of Health is formed. As this idea has also affected other communities and as they soon find that a community, like an individual, cannot live to itself alone, the need is soon seen and filled for a State organization. And so centralization is attained and the information of all the practitioners, through the registration of births, infectious diseases and causes of death is pooled in a permanent way. This enables us to see at once what a complex subject we have to deal with, when we are studying the causes and prevention of infant mortality, including as it does a study of the acute infectious diseases, the acute inflammations of the respiratory and alimentary tracts, with all that those conditions imply of housing, ventilation, cleanliness of the common water and milk supplies and of the streets, and the material prosperity or poverty of the families, to mention only a few of the features, all of which are so numerous that to read simply a catalogue of them would take much time. So it is necessary to select a few of the topics for brief discussion and I have chosen Tuberculosis, the Diarrheal Diseases, Malnutrition and the Medical Profession.

Tuberculosis does not stand high in the list of causes of infant deaths, occupying twelfth place in 1919, with 1.4% for the U. S. Registration Area. This is undoubtedly too low a figure, for many deaths attributed to broncho-pneumonia, meningitis and malnutrition would probably be found due to tuberculosis if autopsies were made. Some years ago I found that in 115 autopsies on children dying of tuberculosis 60 were in infants, while the baby ward from which these cases came had only one-eighth of the population of the Hospital. The history of the case given above, a healthy breast-fed infant, illustrates two important points, the air-borne transmission of the disease and the lack of resistance on the part of infants. So we must fight unceasingly to protect the infants from exposure. In this fight we have three hard things to overcome, *ignorance* and often *obstinacy* on the part of the tuberculous, and, more than all, the *vitality* of the tubercle bacillus. It is to the credit of mankind in general that most people affected with tuberculosis, when they are told of their condition, will follow directions given to keep them from being a menace to their fellow-creatures, but this is not always the case, for I have seen three well-informed adults, one of them a physician, who would decline to carry paper cups, but would hurl nummular plugs of bacilli-laden sputum around where most convenient for them and one of them, in spite of protests would insist on caring for her infant-niece and would test the warmth of the bottle of milk by putting the nipple in her own mouth immediately before giving it to the child. Such instances are of course very discourag-

ing but the antispitting campaign, if kept up constantly, will have much effect in time. Perhaps, by-and-by, we shall be able to look on tuberculosis as we do now on typhoid fever, which is under such preventive control that, as has been remarked, 'for every death from typhoid someone ought to be hung.'

The vitality of the tubercle bacillus has always evoked my profound respect; I have seen it lie quietly in a hip of a colleague for thirty-four years before bursting out in affinal explosion and it can apparently live outside the body, as a facultative saprophyte, for an indefinite period. Therefore it is very essential that every house in which a tuberculous patient has dwelt should be cleansed thoroughly and repeatedly.

But the disease is not solely air-borne. Several years ago I saw in consultation a robust boy of twenty-six months who had received only certified milk for the first eighteen months of life and then was given a commercially pasteurized milk. When first seen, he had been ill for a week with irregular fever and malaise; the father who knew considerable medicine but was not a physician had noticed slight stupor and Cheyne-Stokes respiration; lumbar puncture showed the existence of tuberculous meningitis; at the autopsy, one week later, the lungs were normal and the bronchial glands could not be felt; in the lower part of the small intestine were two small, transverse, linear ulcers and in the mesentery near these were four enlarged mesenteric glands, one of them being caseous on section. The only other region showing tubercles was the base of the brain; cultures from both these regions were made by Dr. Paul Lewis and Dr. John Reichel and the bovine tubercle bacillus was obtained. To my mind that shows the importance of having even the commercially pasteurized milk subjected to home-pasteurization before giving it to children. (I do not mean by this to decry commercial pasteurization, which is a great blessing and is a factor in lowering the mortality from several different diseases, such as summer diarrhea and scarlet fever, but it is easy to conceive of milk so infected with clumps of tubercle bacilli that some of them will be able to survive; thus, Dr. Chas. M. Seltzer told me that he had seen a cow so far gone in tuberculosis as to be unable to stand, but one man held her up against the side of the stall, while another man drew the milk which was sent to market). And all this also shows the great need we have of a Veterinary Department and of encouraging it in its effort to stamp out tuberculosis from cattle. That is a big but not impossible job.

The veterinarians also have a large task in helping us attack one of the great causes of infant mortality, the diarrheal diseases, for, to a much greater extent than is the case with tuberculosis, milk has a very close relationship to "summer diarrhea" for it acts in a double role, first as the carrier in the vast majority of cases of the infective agents into the alimentary-tract, and second, as a culture medium on which those germs may grow and maintain their vitality. That the germs may be air-borne is likely, for breast-fed infants are sometimes affected particularly when depressed by the hot weather, but these cases may be looked on as accidental and the main measures to lessen the deaths from enteritis are clearly fixed. The first

one is to provide a clean milk-supply, then to safeguard that from the time the milk is drawn until it is pasteurized and from that time it should be kept from air contact until it is fed to the infant. All that involves a very well organized system of milk-production, transportation, distribution and finally care in the home, for if the system, complex as it is, is not watched from start to finish it may break down at any point and be the cause of much sickness. When we had once learned that the so-called perils of the second summer were largely dependent on milk there were at once given some clear indications for treatment, the urgent one of clearing the intestinal tract as quickly as possible of all milk and of not putting milk back into the diet until the fever has subsided and the stools have lost all evidence of acute inflammation by a disappearance of all blood and greenish mucous. For the first purpose castor oil has a great reputation and it may be advantageously combined with spiced syrup of rhubarb to make it more palatable and to help its broom-like action of sweeping out the fermenting and putrefying intestinal contents. One drawback to the mixture is that it requires about six hours to do its work and it is sometimes vomited, especially if there happen to be any milk in the stomach. So for some years I have preferred to use a solution of magnesium sulphate 10 grains to the drachm, which may be made a little more palatable by one drop of spiced syrup of rhubarb and ten drops of syrup of ginger; this dose may be given every half hour until a watery evacuation results usually after five or six doses so that the alimentary tract is cleared in three or four hours. Then having taken away the culture-medium for the germs, milk is withheld for a time, the nourishment consisting of carbohydrates in various forms and when it seems safe to resume milk, probably the safest form is that which has been fermented with the *bacillus bulgaricus* or the *bacillus acidophilus*. In this connection and at this season I should like to mention a hobby of mine in treatment, the giving of blackberry-gelatin to the infants with ileo-colitis, as it furnishes an astringent element and also a harmless food-stuff which gives bulk to the intestinal contents, so that there is less of a tendency to the development of a scaphoid abdomen.

During the hot spells of summer, these infants with diarrhea are apt to develop either heat prostration or even sunstroke with very high fever; as a preventive all infants and young children ought to be taken out of the densely populated districts into the cooler and better aired country or seashore. This is manifestly a physical impossibility and such philanthropies as the Country Week Association and the Seaside Homes, blessings though they be, only reach a small part of the infant population. The best solution of the problem is to bring bits of the country to the city in the development of parks suited in their areas to the population to be served. This will be costly measured in dollars, but it is a measure of self-preservation for the community and will be worth all its costs.

Malnutrition is properly not accepted by the Registration Bureau as a cause of death because it is only a symptom of some underlying condition and in some cases this is undoubtedly tuberculosis, as was mentioned above, but we are unable to estimate in how many cases

death was due to this disease. Excluding these and also the deaths due to syphilis, there is still a large group due to indigestion, using the term in its broadest sense, or to improper feeding, including under this last heading those cases in which there has been no lack of patient and skillful, though unsuccessful, effort to find the right food. As the causes of malnutrition are many, so the methods of overcoming it vary almost with every patient and no hard and fast rules can be laid down for the handling of such patients. Therefore the general practitioner should have special instruction in the diagnosis of the conditions which may cause malnutrition and in the general principles underlying the feeding of these patients. To illustrate the need for this special instruction, hospitals for babies are having a considerable number of patients with hypertrophic pyloric stenosis, the main symptoms of which are vomiting and wasting. These patients are usually treated for some time as having indigestion due to unsuitable food and to a practitioner who has never seen nor heard of pyloric stenosis, the diagnosis would be rather difficult. So, and this is my final heading of measures for the reduction of infant mortality, there is need of a medical profession, or at least that group of it called on to treat infants and children, that has been trained specially in the diseases of these patients. And back of these doctors should be a public so enlightened in matters of public hygiene as to demand such a profession and to support it in all measures tending to improve the common weal.

*Address given at Camp of Instruction.

THE CAUSES OF DISEASE AND PREVENTIVE TREATMENT

By

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Prevention of disease is far more important than its cure. A study of medical advances in the last quarter century will show that, though the actual cure of disease has been greatly advanced, the methods of prevention of dissemination have accomplished far more for the welfare of mankind. Increased length of life has been brought about by improvements in hygiene and preventive measures rather than by the discovery of ways and means of curing disease after it has actually occurred in the individual patient. We must give all credit to those who have taught us the causes of disease and have made it possible for us to prevent the dissemination of these causes. In the case of certain infections, like typhoid fever, malaria and septic infections, we have been shown what the causes are, how they are conveyed from patient to patient and how the spread of these diseases may be prevented. In other infections, though the causes are more or less certainly known, means to prevent their dissemination have not been so clearly determined and little advance has, therefore, been made in the direction of prevention. Pneumonia, that dread disease that contributes so largely to human mortality, is an example of this group. There is still another sort of infection of a more chronic kind, like tuberculosis, which interests us at this meeting more than other diseases, in which the cause is known and the ways in which this cause is disseminated are more or less ac-

curately understood, but in which despite such knowledge the wide spread distribution of the disease and factors that may be designated as contributing or predisposing causes have prevented its effective control. I am especially interested in these contributing factors and wish today to address my remarks to these rather than to the specific cause of tuberculosis. What I shall say on this topic applies also to various other infections of less serious character and in a measure, perhaps, to most infectious diseases. All of us, sooner or later, are exposed to infections of one sort or another; some of us fall victims, others escape. In some cases, the character of the infection is such that the person exposed, no matter what his condition may be, develops the disease. In other cases, some or many escape and a few are attacked. In these the condition of the patient, undoubtedly, has a considerable influence in the result. Strong, vigorous, healthful persons may succumb to infections and in the case of some diseases, it has been claimed that the vigorous are as liable to infection as the feeble; but in a large analysis, it will generally be found that those who have been debilitated are more vulnerable to infections than those in robust health.

As the causes of disease both immediate and contributory are essential conditions that must be discovered before there can be either prevention or cure, it is important to include them as elements in the question: what constitutes accurate and full diagnosis? Very often the complete and satisfactory diagnosis of disease consists in the recognition of the actual disease from which the patient is suffering; but in a larger sense, those of us who are interested in problems of prevention, are concerned and it is a part of diagnosis to know why the patient fell a victim to the particular disease from which he suffers. Students of the subject of tuberculosis are keenly appreciative of the fact that environmental and other conditions are of even greater importance than the specific cause and exposure to infection. Good soil, ample nourishment and proper cultivation have been found better preventives of parasitic plant diseases than fungicides and the same general principle applies in the diseases of animals and man. The Veterinarian, who is able to control the feeding, stabling and exercising of animals, is able to prevent the occurrence of diseases. Similar safeguards are applicable, but more difficult of enforcement in the case of humans.

This brings me to the consideration of the contributing causes which are of such importance in the matter of predisposition to infections and other forms of disease. These, to name the more important, are fatigue, under-nutrition and nervous depression.

Fatigue. I remember the precepts of a wise teacher of medicine whose lectures I had the privilege to hear regarding fatigue as a predisposing cause of acute infectious diseases. I recall in particular that he instanced a number of cases of pneumonia that seemed clearly due to extreme exhaustion as a preliminary and exposure as a later and determining factor, and who among us has not experienced the readiness with which "colds" and other minor infections attack us when exhausted? The experience of groups of men, like workmen engaged in over-time work or armies on forced marches, similarly illustrates how greatly the resistance to infection is de-

creased in those physically exhausted. But it is not these obvious instances of disease following acute exhaustion that are of greatest importance. A far more vital consideration is that of disease resulting from long continued chronic fatigue. Among the poor, the house-wife debilitated by the care of her children and her home and often by broken, sleepless nights when sick children require constant attention, the working girl whose hours of work are often followed by evenings and nights of added household labors, the father of a family exhausted by hard labor or long hours of work and by anxieties at home when the day's duties have been finished, the ambitious young man who strives to support himself and family by working during the day and to advance himself by study at night, these are types of persons who frequently fall easy prey to infectious diseases that may be prevailing as epidemics, but aside from any widespread epidemics, the same types of individuals are the ones most frequently victims of one after another of minor ailments—now acute bronchitis, again a sinus infection, later tonsillitis or rheumatism and thus from one thing to another. To recognize each of these diseases accurately but not to appreciate what is the underlying cause of this great vulnerability may and often does satisfy the medical practitioner, but those of us who are engaged in public health work and especially in combatting tuberculosis must be alive to the greater importance of the seemingly non-medical occupation of attacking the problem at its source by overcoming the conditions that render so many people vulnerable to infectious diseases. The short sighted and uninformed may wonder that those engaged in tuberculosis work employ themselves in the study of housing conditions, sweat-shops, hours of work, the dietary of the poor and similar questions rather than in more transparently scientific considerations of the tubercle bacillus and its activities, but a broader knowledge and viewpoint justifies all the efforts that have been made to determine the influence of environmental conditions on the susceptibility to infection. If we look back and review the efforts that have been made in the past to reduce the spread of tuberculosis, we shall see that after the discovery of the specific cause of the disease and, later, after immunizing methods and curative sera for certain acute infections had been discovered—an immense amount of work was devoted to the elaboration of ways and means of destroying the bacillus, of preventing its dissemination and of producing curative sera. During the period of time that these studies have occupied tuberculosis has been greatly reduced in frequency and the death rate from this cause has steadily declined, but who among us would be willing to attribute to any or all the methods of attack on the specific bacillus anything approaching the importance that belongs to the hygienic measures that have improved the resistance of individuals to this infection. I am, of course, prepared to admit that a knowledge of the communicability of the disease, the avoidance of contacts, the proper sterilization of sputa and various other measures tending to reduce actual exposure have been important factors, but when one considers the imperfect enforcement of these matters contrasted with the steady advance in improved conditions of hygiene, it seems evident that the control of the disease, for the present, lies in a continued emphasis on methods of hygienic regulation. I started as a consideration of fatigue as a predisposing factor in

disease and, in the course of my remarks, have mentioned housing, sweat-shops, etc. Let us not forget that we often regard as important one apparent condition arising under certain circumstances when another circumstance in these conditions is perhaps the really important one. For example, in sweat-shops the element of contact has sometimes been emphasized as the significant cause of the spread of tuberculosis or other diseases and I have no thought to question the importance of this but, at the same time, it is not unimportant to recall that the people subjected to the very undesirable conditions of such work-places are also people who, by poverty and most unsatisfactory conditions in their homes, are usually under-nourished and chronically fatigued. Where several factors enter into a predisposition to disease, it is difficult to evaluate the responsibility of each, but when corrective measures are considered, better ventilation and less close contact may not answer all requirements, if long hours, insufficient pay, home conditions involving hours of work after the day's labor is finished and other factors of this sort are ignored.

Undernourishment. Tuberculosis is a disease that appears to be enormously communicable in childhood, though resistance at this time of life may cause its arrest or latency till, in later years, debilitating conditions occasion its revival. Whether this statement is altogether true or not need not now be discussed. It is certainly true that infantile infection is frequent. Contact is, undoubtedly, a circumstance that must be regarded as of prime importance at this time of life and no doubt one of the chief advances that has been made in the control of the disease is that which has resulted from the recognition of the danger to infants and young children from close contact with infected parents or others. At the same time, it is clear that under-nutrition in childhood and later life constitutes another very important predisposing factor to infections of all kinds and to tuberculosis in particular. Measures have been taken to improve the nutrition of school children and nutrition clinics have served an enormously useful purpose in educating the public in this important matter. Only a beginning has been made for, despite the efforts of those interested in this question, the public generally has but a meager knowledge of what proper nutrition implies. The rich or well-to-do, by reason of their ability to buy and provide a variety of foods and not from special knowledge, are able to secure a dietary that will safeguard health. The poor, no less ignorant but unable to have a variety of food, suffer from general insufficiency and under-nutrition and from the use of tinned foods of various kinds and the lack of fresh foods of every kind. Looking at the question broadly, the more important factor is probably insufficiency of nourishment rather than improper diet—but both questions enter into the matter and require consideration.

Only such broad surveys as have been made possible among the undernourished in European countries during recent years can give us an adequate suggestion of the importance of lack of food on the prevalence of infections and other sorts of disease, but the experience of any large general hospital reveals illustrative cases and often demonstrates how our medical efforts may be misdirected. Not to prolong my discussion unduly, let me refer in very brief to the case of a woman admitted to my wards with a variety of

complaints, nervous, nutritional and abdominal, who had been operated on for some misplacement of abdominal organs without effect and treated in various ways at her home without improvement. Our Social Service worker discovered domestic conditions of a grave character leading to systematic starvation and, upon the institution of a careful plan of feeding, the various symptoms of disease steadily diminished and eventually vanished. The successive diagnoses in this woman's case were all no doubt accurate enough and the treatments conventionally proper but without consideration of the fundamental fault underlying all the woman's disease.

Nervous Depression. Historical pathologists have frequently referred to the increased incidence of disease among people subjected to great nervous depression as in times of sieges of cities in war-time. Medical literature also furnishes an abundance of testimony in the case of many diverse conditions that nervous shock or exhaustion may be an important etiological factor. I doubt if this has been over-emphasized. Indeed there are many reasons to believe that, in a great variety of functional diseases, nervous depression is an influence of prime importance. How often do we see persons previously in apparent health fall victims of some visceral disease (cardiac, renal, gastro-intestinal, etc.) or to an infection (perhaps tuberculosis) after some notably marked shock or strain of the nervous system. What I have said before regarding fatigue and malnutrition must be considered in connection with possible associated conditions of nervous depression.

Lest I seem to slight the wonderful advances that have been made in the scientific knowledge of disease, its recognition and treatment, let me add and emphasize that my purpose in laying stress upon the environmental and other predisposing causes of disease was to indicate a conviction that, from the standpoint of the public health, more and more attention should be given to the circumstances and conditions under which people live. We may rest assured that no lack of interest will be taken in every new advance in the scientific study of disease.

CONSERVATION OF CHILD HEALTH IN PENNSYLVANIA

By

DR. J. BRUCE McCREARY,

Director, Bureau of Child Health, Department of Health.

We hear much in these days of the conservation of natural resources. The greatest natural resource of any State or nation is its child life.

Governor Pinchot is heartily supporting and with his characteristic energy backing the present Secretary of Health, Doctor Charles H. Miner, in making child health work the leading feature of his administration. Under his guidance and following his instructions, the Bureau of Child Health is devoting its full strength and energies to this work. Our Prenatal Clinics, Well Baby Centers, Diphtheria Prevention, Dental Hygiene and School Inspection combined with a special study of infant mortality causes and possible corrections all go to make up a program of conservation of child health.

It is a big problem. Think of Pennsylvania as a great nursery in which there are born each year approximately 220,000 babies. Until the present year, 86 out of every 1,000 of those babies born alive died in the first year of life. So far as we are able to judge from our present figures, this infant mortality will have been reduced at the close of the current year to 80. A large portion of these deaths are from preventable causes. A large group dies from conditions existing before birth, which could have been avoided had the expectant mother had proper care. Another large group dies from gastrointestinal diseases due to improper feeding. A third group dies from respiratory diseases due to improper clothing, housing and lack of protection. Of those that escape death in the first year of life, an inexcusable number remains crippled in health for life and falls easy victims to disease, especially Tuberculosis, in early adult life.

Study by various organizations in connection with the State Department of Health shows that we have in Pennsylvania, 800,000 children suffering from malnutrition. This does not necessarily mean that all these children are under-fed. Many conditions enter into the causes of malnutrition. Space permits but the mentioning of several—physical defects, environment, lack of home control, irregular habits, loss of sleep, over-work and consequent fatigue, as well as lack of food, either in quantity or kind.

An organized campaign by the Bureau acting under direct instructions from the Secretary of Health is being waged against Diphtheria, the most deadly of our childhood diseases. A program of education is constantly kept before the people, instructing them in the importance of early treatment by Antitoxin and permanent immunization by Toxin-antitoxin. The Department has directly supervised the immunization of more than 50,000 children.

Antitoxin is furnished free to all persons in the State for treatment and Toxin-antitoxin is furnished free of cost for all children up to and including the age of six years. For older children, it is furnished at State contract prices, or about thirty cents per individual, which is a saving of more than 70% over commercial prices.

Since the proportionate number of cases of Diphtheria in the State and the death rate from Diphtheria have remained in the same ratio for fifteen years, it is believed the only way to control this malady is by reducing the number of susceptible children by immunization. Since this campaign has begun, both the morbidity and mortality rate of Diphtheria have been reduced.

We have in the public schools of the State, approximately 1,900,000 children, more than 70% of whom have some correctable physical defect, which retards their mental progress.

In the Fourth Class schools alone, which are the purely rural schools, we have 690,000 pupils, 70,000 of whom are mentally retarded. These are the so-called repeaters and are causing an appalling waste of school funds at a time when the people are already burdened by the heavy taxes. The School Code provides that an annual school inspection in the Fourth Class Districts shall be made by the Department of Health. It has been the aim of the Department through this medical school inspection

1. To discover the physical defects in children.
2. To set in motion measures whereby these defects may be remedied as far as possible.
3. To discover insanitary and dangerous conditions in school houses where children are compelled to spend a large portion of their waking hours.
4. To furnish this data to the State Government that it may influence local school authorities to correct these conditions.

In these Fourth Class Districts, it is shown that 29.5% of the physical defects have been corrected and that vast improvement has been made in the sanitary conditions of buildings.

The Dental Hygiene Division has accomplished much in the way of public education looking to the conservation of not only child but adult life by the better care of teeth.

The Department expresses the hope that the public will look upon it as a clearing house between the physicians and the public for the conservation and betterment of the child life of the whole State.

WHAT PENNSYLVANIA DOES FOR ITS PRESCHOOL POPULATION

By

DR. MARY RIGGS NOBLE,

Chief, Preschool Section, Department of Health.

During the past year in a few of the towns in Pennsylvania where the infant mortality rate was highest, the special attention of the Department was given to the devising of plans whereby better conditions might be brought about for saving the babies. It was Dr. Miner's wish that the resources of the Department be placed at the disposal, so to speak, of the towns in question, and that the various Division Chiefs concentrate on the local conditions, in consultation with the local physicians, borough officials, and heads of organizations of all kinds, and with their help start drives for the lowering of infant mortality.

Actual progress has been made in several places, notably, Johnstown, Donora, West Chester, Carbondale and Olyphant. Other communities are on the eve of opening up work.

No new or startling methods are being tried. The outstanding features variously undertaken include methods upon the securing of the cooperation of the local medical profession, obtaining public health nursing service, improving the general sanitation of the towns with regard to clean streets, better garbage and sewage disposal, obtaining safe milk supplies, and opening Well Baby Centers and prenatal work.

The Department of Engineers has been working with local officials to get definite information as to conditions and to devise economical methods for improvement. Census and survey work has been done

to get exact information as to birth registration, the causes of the high infant death rate, and to locate infants and preschool children with reference to obtaining a clientele for the Health Center registration, etc.

The arousing of public interest involved the spending of much time by Division Chiefs and field workers. Publicity measures included speaking before men's and women's organizations of all sorts, securing the interest of clergymen and of church bodies, conferring with and gaining the support of newspapers, and above all, undertaking to put into operation measures for providing a public health nursing fund.

For the intensive maternity and infancy work to be done by public health nurses secured, the Department offers to give one thousand dollars provided the rest of the amount is locally secured. This offer of a thousand dollars is now open to any town, borough, or county, willing to match it for the purpose stated. It is desirable that Borough Councils and County Commissioners include in their yearly budgets, items for such preventive health work, and it is believed that when it can be more generally recognized that such expenditure is actually money saving, there will be less hesitation on the part of officials, and there will, furthermore, be a demand by the tax-payers that their money be spent in this more effective way.

The following figures should make us all think. Our country at large spent in 1923, \$1,400,000,000 for hospitals, nurses, healers and drugs—that was the bill for curing ills, whereas the total expenditure for health, local, State and national was but \$60,000,000. We can expect to waste money with consequent loss of life until we are willing to spend more than 6/10 of 1% of our total Governmental expenditures for the ounce of prevention.

Pennsylvania is now one of eight States where birth notification certificates are sent to parents to confirm the fact of their babies' births having been registered. We regard this as one of the best pieces of new work undertaken in the interests of children. It makes for greater accuracy of records as it is found that parents are desirous of having mistakes in names or other data corrected, and the desire to become possessed of these "mothers' notices" is bringing about a fresh stimulus for registration. The nuregistered babies are gradually becoming a negligible quantity.

The intensive work carried on by the Department among midwives in four counties in the coal regions (Lackawanna, Luzerne, Schuylkill and Cambria) has been in the hands of a full-time woman physician who speaks several languages. In these counties there are 343 licensed women practicing, almost exclusively among foreign mothers. In 1924, there were 5,975 cases attended by them. Our work is to supervise the midwife strictly, teach her better methods, and discover and put out of business unlicensed women found practicing, and on the other hand to try and educate the mothers as to the necessity of prenatal care and the bringing of their babies after birth regularly to the Child Health Center.

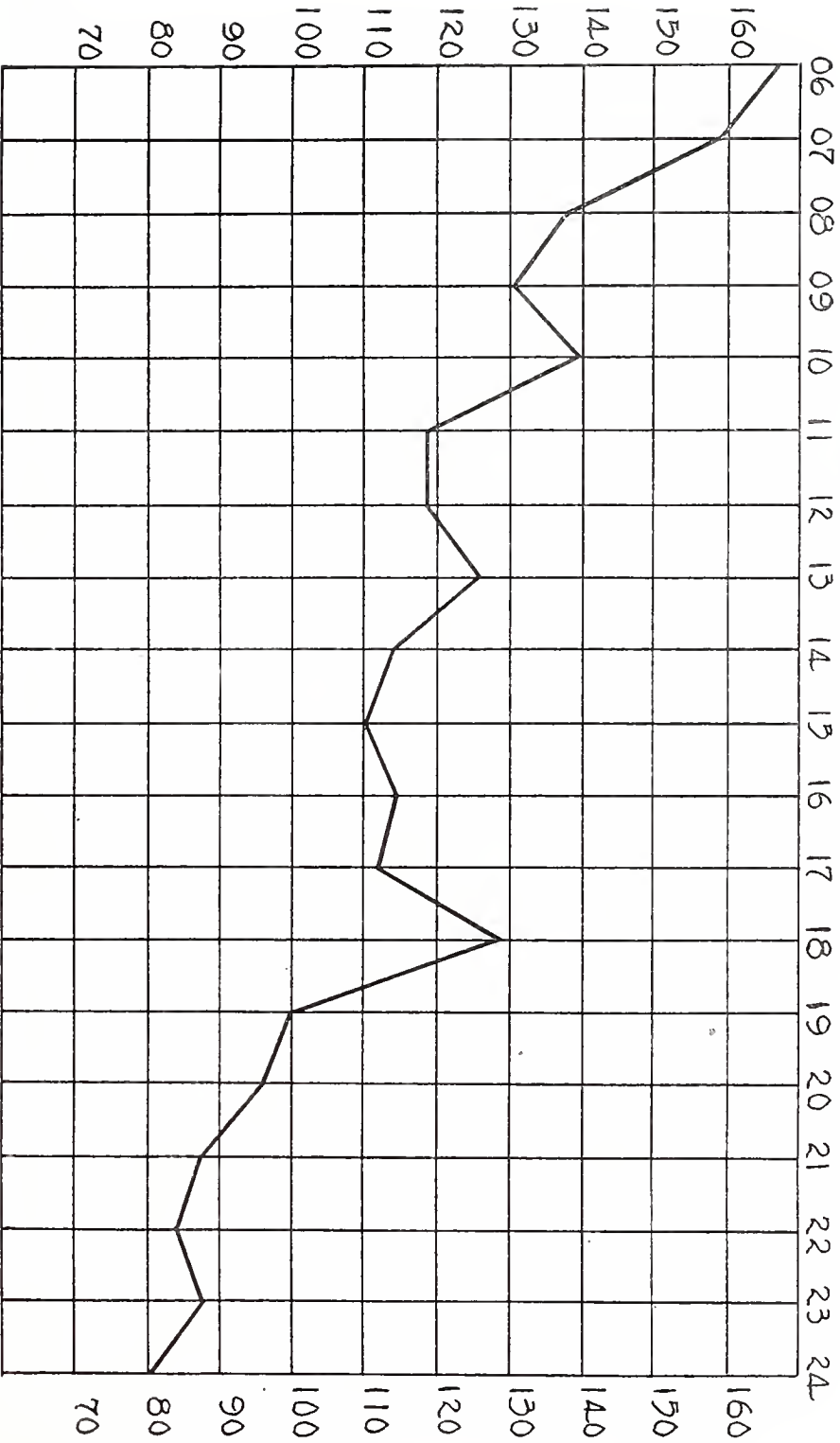
In other communities of the State, the State nurses are also keeping an eye on the midwife situation, hunting out the licensed women, reporting the activities of the unlicensed ones to the official inspector, watching over the babies born, seeking unregistered births, and constantly spreading the news of Health Center work among the foreign women who are in special need of just what our Centers provide, i. e., a chance to find out what a baby needs to make it truly a well baby and to learn how to keep a well child well.

It is a large family we have on our hands. We stand firmly on the proposition that when all the parents know about their children's physical condition and the presence of defects they will care to do the right thing. We say this in the face of the apathy of some fathers and mothers and their positive expressions of hostility in some instances. They do not fully grasp the seriousness of the small defect in the early years of life. When they know the *whole* truth about the harm those defects can work, they *will care*.

A former Commissioner of Health, Dr. Dixon, once said: "Babies' funerals should get on the nerves of every thoughtful citizen for the reason that death's toll of infants is one of the heaviest burdens of modern social life."

Sir Arthur Newsholme has told the world that "infant mortality is the most delicate index we possess of social welfare."

Pennsylvania's Infant Mortality Record



"In recent years the baby has taken his place in the sun. The limelight in which he sprawls, crawls and bawls is bright enough to dazzle the strong man, but it does not trouble the toddler a bit. He is not frightened or embarrassed by the glare. He really likes the warmth of it."

We are concerned in Pennsylvania, as health workers everywhere are concerned, to reduce the Maternal Mortality. The death rate from causes surrounding child birth in this State stands at 6.1 per 1,000 births,—precisely where it stood in 1915. The maternal death rate has but once been below that figure. It has many times been much higher, and by competent authorities maternal deaths are stated to be probably slightly on the increase in spite of all our public health efforts.

As a nation we are losing proportionately more mothers than eight other nations. Why? It has been authoritatively stated that with our present knowledge without any new scientific discoveries, we could save these mothers if we lived up to what is perfectly well understood, but not widely enough known, as to the necessity and meaning of maternal welfare work.

The three prime considerations for every expectant mother are supervision by a competent physician throughout the whole of the nine months of expectancy; safe, sane and scientific skill at the crisis; adequate after care. Every mother has a right to these things. She should be in a position to claim these rights because near enough to her are good hospitals, competent doctors, trained public health nurses, all alive to the situation.

I am the Baby.

I am the youngest institution in the world—and the oldest.

The earth is my heritage where I come into being, and when I go, I leave it to the next generation of babies.

My mission is to leave it a better place than I found it. With my million little brothers and sisters I can do this if the world does not impose too many handicaps.

Now, I need Pure Milk—Fresh Air—and Play.

When I am a little older I shall need good schools in which to learn the lessons of life.

I want to live, laugh, love, work and play.

I want to hear good music, read good books, see beautiful pictures.

I want to build Houses, Roads, Railroads and Cities.

I want to walk in the woods, bathe in the waters and play in the snow.

I am yesterday, today and tomorrow.

If you will make my way easy now I will help you when I grow up.

I am your Hope. I am the Baby.

PRESCHOOL CHILDREN AND THEIR NUTRITION

By

DR. JOHN D. DONNELLY,

Chief, Field Service Section, Bureau of Child Health, Department of Health.

A baby's tastes and likes are results of habit and training. If he be weaned on the proper kind of wholesome and nutritious food, he will develop an appetite and liking for such.

The Human Machine

As the fire-box and boiler generate energy and power in the form of steam, so the baby's digestive system and body develop energy and power. For the former, coal is the fuel; for the latter, food is the fuel. To get the most efficiency out of fuel, the fireman uses clean, high grade coal. He never uses substitutes. He 'feeds' the fire-box regularly. This done, he is ever on the watch for defects in the grates, in the fire-box, in the flue, in the boiler, etc. Cracks, breaks, faulty position or connection of parts cut down the efficiency of the fuel and lessen the development of power. These are repaired immediately. If neglected, the cost of operation increases and occasionally horrible accidents, such as an exploded boiler, occur. The point is—*good fuel, careful inspection of parts and their immediate repair pay*—these save dollars.

Is not the human baby machine a piece of delicate mechanism, worthy of the best fuel, nutritious food and frequent inspection by your doctor? Have him examine your baby from head to foot, he will tell you if your baby is developing as he should. Should physical defects be found, the doctor can correct them before they become marked or impair health. In this way malnutrition can be avoided.

Causes of Malnutrition

Physical defects, such as obstruction to breathing, diseased tonsils, decayed teeth, local infections, indigestion, faulty posture of body, poor vision, ear trouble, chest conditions and various chronic diseases.

Lack of home control.

Overfatigue.

Improper food and bad food habits.

Bad health habits.

Beginning of Malnutrition

Malnutrition often follows an acute illness from which the child has not fully recovered, or it may follow the acquiring of one or more physical defects.

Communicable Diseases

Children between the ages of two and six years are frequently exposed to and contract contagious diseases and acute catarrhal infections of the nose, throat and lungs. Children who are well nourished and developed and free from gross physical defects have greater

resistance to the complications of these diseases and usually convalesce satisfactorily, if kept under the doctor's care and given plenty of rest after apparent recovery. Build up the child's body and health to withstand the ravages of the ills that lie in wake for the defenseless preschool child.

Prevention and Cure

The preschool age is a critical period in the life of every child. As this is the time when character is unfolded and individuality formed, it is necessary to insist upon proper health and food habits. When once inculcated in the life of a child, they are likely to continue to its benefit and the satisfaction of its parents. Mental development and progress are also dependent to a certain extent upon nutrition.

The best cure is PREVENTION. Begin with weaning by having a doctor examine the baby thoroughly and correct any defects that may be found. Place the baby under his supervision and follow his directions as to weaning. Start the baby right, free from physical defects and on the right kind of table food.

The right kind of food offers a varied choice. It has the advantage of being plain, nutritious and comparatively cheap.

Milk—at least one pint a day.

Cereals—Cream of Wheat, Farina, Oat Meal, Rice, Hominy Grits—cooked for ten minutes over flame, then steamed in double boiler for one hour.

Bread—One day old whole wheat or white bread, Zweibach.

Vegetables—Boiled or baked potatoes, spinach, stewed celery, asparagus tips, string beans, peas, carrots and cauliflower. At three years, stewed tomatoes, buttered beets, turnips and tender boiled cabbage should be added to diet.

Fruits—Oranges—Juice of one orange at least three times a week, preferably daily.

Prunes—Stewed, pulp only without stones.

Apples—Stewed or baked with core and seeds removed.

Eggs—Soft boiled, poached, coddled or scrambled. Try eggs in small quantity, not more than a teaspoonful at first, as egg does not agree with some children.

Soups—Meat and vegetable with coarse particles removed. Plain broths should be thickened with cornstarch or arrowroot and milk added.

Meats—Beef juice, scraped beefsteak, lamb chop or white meat of chicken. After the second year, depending upon the number of teeth possessed by the child and its ability to chew well, minced beefsteak, lamb chop, white meat of chicken, roast beef, roast lamb and bacon fat can be given.

Desserts—Junket, cornstarch, boiled rice with milk, custard, vanilla ice cream, rice pudding.

Three full meals a day, served at regular intervals should be sufficient for the average well child. For the underweight child whose appetite is good, a cup of milk and piece of bread or graham crackers may be given between meals. It is well to introduce only one new article of food in the course of a week, using only a small quantity the first time. Do not give children tea, coffee, pies, cake, doughnuts, pastry, pork, ham, sausage nor fried foods. Avoid use of sugar at table. A pinch of salt seasons cereals. Butter may be used freely on bread and vegetables. Water drinking is to be encouraged between meals.

The waking hours of every child are very active ones. Their sum total represents for the size of a child an expenditure of more energy and effort than that expended by the average adult. This explains the need of systematic and regular periods of rest without which overfatigue is sure to develop. Overfatigue is one of the causes of malnutrition. It can be prevented by rest in bed for two hours in the late morning or early afternoon. Sleep is not absolutely necessary, lying quietly in a darkened room, well aired, is the essential point. Well trained children will sleep during the greater part of this period.

To be successful in training children in good habits that will reflect themselves in good health, it is absolutely necessary that parents have full control of their children. The child, who is consulted as to what he cares to eat or whether he feels like taking a nap, is usually sure to choose wrongly or to raise an objection. And why not? He does not know the difference. He has had little experience and his memory of past upsets is feeble; certainly, he does not have the intelligence of his parents. Decide the food which you wish your child to have, then *serve it*. If this policy be adhered to, the child with a little persuasion and encouragement at first usually accepts its parents' choice and much to its delight later finds such food appetizing. The same is true of rest periods. When insisted upon daily, they soon become a habit—a welcome period of ease and rest for the child.

There are various ways of winning a child's confidence and having him obey. Parents know the best methods for their own children. Once home control is established firmly, the battle for good health habits is practically won.

7:30 A. M. is a suitable rising hour for young children. The daily bath is necessary not only for cleanliness but also for stimulation of the body. Sun and fresh air are two big gifts of nature and should be given freely. In suitable weather children should live outdoors until noon, then lunch followed by a nap or two hour rest in bed or on a lounge in a quiet well aired room; outdoors again in the afternoon until the sunset, dinner not later than 6 P. M. and in bed by 7:30 P. M.

The first set of teeth (milk teeth) requires attention. Cleanliness is the secret of tooth preservation and prevention of dental trouble. After each meal teeth should be brushed and tooth paste or powder used before going to bed.

Constipation can be avoided by training the child to seek immediate relief whenever he experiences the desire. There should be at least one stool daily.

Clothing should be seasonable. In cold weather, add additional outer garments, such as sweaters and leggings when ready for outdoors. Avoid overheated homes as in such, children are more likely to develop colds than in homes where the temperature is kept between 68 and 72 degrees. If taken out on rainy and stormy days, make children wear rubbers.

It is well to know your child's weight and height. Is he gaining as he should? If not, there is a reason. Consult your doctor. He will examine your child thoroughly and discuss his food and health habits with you; he will help the child regain his weight and progress in health and strength.

WEIGHT—HEIGHT TABLE.

HEIGHT (INCHES)	BOYS (LBS.)	GIRLS (LBS.)
30	22	22
31	23	23
32	25	24
33	26	25
34	27	27
35	29	29
36	31	30
37	32	31
38	34	33
39	35	34
40	36	36
41	38	37
42	39	39
43	41	41
44	44	42
45	46	45
46	48	47
47	50	50
48	53	52
49	55	55

Note.—Up to 35 inches in height, weights are without clothing; 35 inches and over, allowances have been made for clothing with cap, coat, sweater, shoes and leggings removed.

DENTAL HYGIENE IN THE PUBLIC SCHOOLS OF PENNSYLVANIA

By

DR. C. J. HOLLISTER,

Chief, Dental Hygiene Section, Bureau of Child Health, Department of Health.

Early in January, the Dental Section of the Bureau of Child Health sent questionnaires to the Superintendents of those schools of the State where Dental Hygienists have been employed for a sufficient time to have achieved definite results.

Five essential points were embodied in the questionnaire:

1. As to improvement in the general health conditions of the children, in deportment, in scholastic standing and in appearance.

2. As to the teachers' attitude in regard to Dental Hygienists' service.
3. As to the attitude of the public.
4. The Superintendent's opinion as to its practicability, its desirability as a permanent part of the school work.
5. Personal suggestions from the Superintendents.

Space will not permit the printing of the many replies. A few report they feel they should have more time in regard to question No. 1. The majority report affirmatively in answer to all the subdivisions. A few do not feel that sufficient time has elapsed to enable them to make an unbiased report.

County Superintendent D. A. Kline, New Bloomfield, says: *"It is a little too early to say definitely. I believe there is definite improvement; there is bound to be improvement."*

Superintendent F. M. Fritz, Clarion, says: *"These can all be answered in the affirmative and the last emphatically."*

Superintendent S. R. Kimberland, Washington, says: *"The health and appearance of the children are much improved. We find deportment better and scholastic standing higher."*

Superintendent Joseph F. Noonan, Mahanoy Township, says: *"Dental Hygiene, in my judgment, is very sound and practical. No school district can afford to be without it."*

Superintendent J. H. Alleman, Uniontown, says: *"We would not think of abandoning this work in our schools. We intend to strengthen it from year to year."*

County Superintendent Isaac D. App says: *"I cannot indorse too strongly the value of this dental service."*

Superintendent H. W. Dodd says: *"In no way does dental hygiene work interfere with the regular curriculum, but, on the other hand, it strengthens it in that it is one of the most easily illustrated, practical ways of teaching health."*

Superintendent U. L. Gordy says: *"The thought I wish to add is, dental hygiene service should be the next thing installed in any school district after reading, arithmetic and writing have been reasonably well provided for."*

In reference to the questions Nos. 2 and 3, it appears to be the general approval of both the teachers and the public.

All Superintendents who have had the opportunity to test the practicability and the desirability of the service are enthusiastic for its continuance and establishment elsewhere. Many valuable suggestions have been received from different Superintendents which will be incorporated in our future program.

The above are extracts from some of the sixty odd answers received and were picked out at random, for every reply was favorable.

"The proof of the pudding is in the eating," and the response to this questionnaire is tangible evidence of the practicability of dental hygiene service in the schools.

Anyone desiring detailed information concerning the installation of Dental Hygiene service in local schools can obtain it by addressing the State Department of Health.

SPRING BALLAD

"Come, little germs," said the wind one day,
 "Come o'er the gutters with me and play,
 Put on your dresses of dust and decay—
 For we have contagion to send on its way."

Soon as the germs heard the wind's loud call,
 Up they came fluttering, one and all,
 Over the pavements they danced and flew,
 Passing disease on to me and you.

One little dust flake bore measles to Jake,
 Another a chill and fever must take;
 While on some others consumption was found
 From the sputum so carelessly spat on the ground.

Indifferent and thoughtless often are we,
 Can't we resolve more careful to be?
 Make warfare on dirt and the germ nests so drear,
 So that "our neighbors" have nothing to fear.

—Ellen Soars Shields.

TRI-STATE WATER TREATY

By

W. L. STEVENSON,

Director, Bureau of Engineering.

On January 24, 1925, a compact between the States of Pennsylvania, New York and New Jersey was signed by Commissioners appointed by the Governors of the three states to negotiate a treaty concerning the allocation and use of the waters of the Delaware River.

Dr. Charles H. Miner, Secretary of Health, is the Chairman of the Pennsylvania Commission, the other members being Major R. Y. Stuart, Secretary, Forests and Waters, and Philip P. Wells, Deputy Attorney General.

It will be a gratification to all interested in public health work to know that the compact definitely sets forth that the highest use of the water resources of the Delaware River is for public water supplies.

This principle insures that the rapidly growing population in the cities, boroughs and communities of Pennsylvania in the Delaware River basin will be afforded ample volumes of water for their municipal needs.

Further to safeguard the sanitary condition of the water of the Delaware River the compact includes requirements for the treatment of sewage and industrial wastes before discharge to the river.

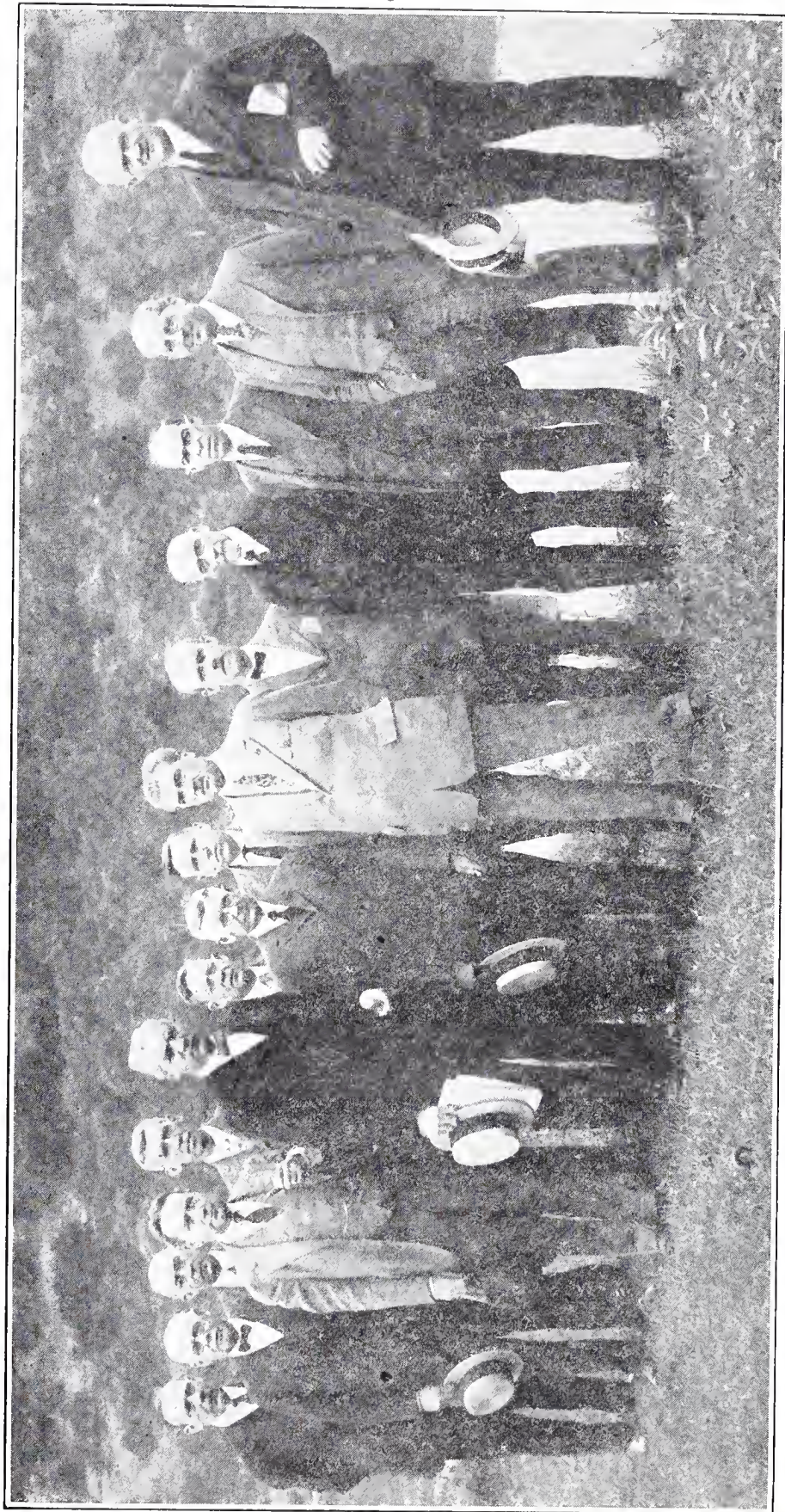
The water of the river above Port Jervis is equally divided between all three states and below Port Jervis between Pennsylvania and New Jersey. The share of each state, however, is reduced by a rule set forth in the treaty in proportion as water is diverted from its tributaries.

A very early treaty between Pennsylvania and New Jersey seemed to debar the construction of dams across the river which prevented its use for power development. But the present treaty provides for such dams thus making possible the utilization of the water of the river for power purposes.

The construction of such dams both on the main river and its tributaries will create great storage reservoirs in which the flood waters may be impounded thus reducing the damage wrought by high stages of the streams. Provisions of the treaty require the release of water from such reservoirs during times of otherwise low flow in the streams. These provisions will materially increase the summer low flows below the dams and thereby not only increase the amount of available water at such times but proportionately improve its sanitary quality.

The compact has been given to the Governors of the three states and will be transmitted to the legislatures now in session for approval.

It is believed that the negotiation of this compact providing definite regulations for practically all uses of the water resources of a great interstate river is a pioneer project and will establish far reaching principles in subsequent like conservation projects.



Reading from left of picture to the right: Mr. Eichelberger, Secy., Board of Water Supply, New York City; Thaddeus Merriman, Chf. Engr., Board of Water Supply, New York City; Russel Suter, Sen. Asst. Engr., Water Control Commission; Charles E. Ryder, Chf. Engr., Water Resources Service, Penna. Dept. Forests & Waters, Harrisburg, Penna.; Rudolph Reimer, Commissioner for the State of Pennsylvania (Chairman); O. W. W. L. Stevenson, Chf. Engr., Penna. Dept. of Health, Harrisburg, Pa.; Dr. Charles H. Miner, Commissioner for the State of New York (Chairman); Philip F. Wells, Commissioner for the State of Pennsylvania; Dr. F. H. Newell, Member, Penna. Water & Power Resources Board; H. T. Critchlow, Hyd. Engr., N. J. Dept. of Conservation and Development, Trenton, N. J.; Col. Wm. A. Starrett, Commissioner for the State of New Jersey; Maj. Robert Y. Stuart, Commissioner for the State of Pennsylvania.

COMMUNICABLE DISEASES IN PENNSYLVANIA DECEMBER, 1924

By

DR. WILMER R. BATT, Director,
Bureau of Vital Statistics.

A total of 13,873 cases of communicable diseases was reported for the month, an increase of 2,359 as compared with November 1924. Urban cases increased 1,465 and rural cases increased 894, the former showing an increase of 16% and the latter 34% over the preceding month.

The principal increases noted are as follows:

Measles	770
Scarlet fever	685
Chickenpox	447
Mumps	400
Pneumonia (true)	116

There were also the following decreases:

Diphtheria	103
Whooping cough	81
Typhoid fever	16

Scarlet fever occurred in sixty-three counties (only Forest, Fulton, Pike and Sullivan being free from this disease), Diphtheria in fifty-four counties, and Typhoid fever in thirty-six counties.

The increase of 685 in Scarlet fever was divided between urban districts with 487 more than the preceding month and rural districts with 198 more cases. The State rate was 28.8 per 100,000 of population as compared with 21.3 in November. The urban rate in December was 30.2 and the rural rate 25.4.

Six cases of Smallpox were reported from the following centers:

URBAN			
Locality	County	Cases	
Nanticoke	Luzerne	1	
Wilkes-Barre	Luzerne	1	
Philadelphia	Philadelphia	2	
Donora	Washington	1	Urban total
			5
RURAL			
Armstrong	1		Rural total
			1
			State total
			6

A total of six cases of Anterior poliomyelitis occurred in the following localities:

URBAN			
Locality	County	Cases	
Hazleton	Luzerne	1	
Factoryville	Wyoming	2	Urban total
			3
RURAL			
	Blair	1	
	Lancaster	1	
	Susquehanna	1	Rural total
			3
			State total
			6

A total of eleven cases of Encephalitis was reported from the following localities:

URBAN

<i>Locality</i>	<i>County</i>	<i>Cases</i>		
Philadelphia	Philadelphia	8		
Burgettstown	Washington	1	Urban total	9

RURAL

Franklin	1			
Montour	1	Rural total	2	
		State total	11	

All communicable diseases reported for December 1924, by urban and rural districts, showing a comparison with the corresponding month of the preceding year:

	<i>Total</i>		<i>Urban</i>		<i>Rural</i>	
	<i>Dec. 1924</i>	<i>Dec. 1923</i>	<i>Dec. 1924</i>	<i>Dec. 1923</i>	<i>Dec. 1924</i>	<i>Dec. 1923</i>
All diseases	13,873	14,244	10,363	10,651	3,510	3,593
Anterior poliomyelitis	6	1	3	1	3	.....
Cerebrospinal meningitis	6	10	5	9	1	1
Chickenpox	3,580	4,189	2,583	3,257	997	932
Diphtheria	1,192	2,016	998	1,494	194	522
Erysipelas	98	71	85	59	13	12
German measles	144	39	122	31	22	8
Leprosy	1	.....	1	.....	.....	.....
Malarial fever .....	.....	1	.....	1	.....	.....
Measles	1,917	2,600	1,353	1,746	564	854
Mumps	1,918	988	1,313	782	605	206
Pellagra .....	.....	1	.....	1	.....	.....
Pneumonia (true)	472	503	449	486	23	17
Puerperal fever	5	7	5	7	.....	.....
Scarlet fever	2,633	1,950	1,958	1,285	675	665
Smallpox	6	19	5	18	1	1
Tetanus	2	1	1	1	1	.....
Trachoma .....	.....	2	.....	2	.....	.....
Tuberculosis	475	520	450	487	25	33
Typhoid fever	164	152	135	91	29	61
Whooping cough	1,120	1,074	776	799	344	275
Impetigo	42	47	33	42	9	5
Scabies	67	37	66	36	1	1
Ophthalmia	14	9	13	9	1	.....
Encephalitis	11	7	9	7	2	.....

A LETTER FROM A DEPARTMENT NURSE

New Brighton, Penna.,
December 20, 1924.

Miss Alice M. O'Halloran,
Chief, Bureau of Nursing,
State Department of Health,
Harrisburg, Pennsylvania.

Dear Miss O'Halloran:

I am just writing you this little note to explain why I have been making so many visits to baby No. 247-248 at Woodlawn.

In this foreign settlement where we are now holding our baby clinic, a family was brought to our attention (Serbians). Mother unable to speak or understand one word of English, the mother of 11 children, four dead, seven living. The father a rough man who did not care for anything but drink.

The children all had lice, one child out of school with a head full, the poor mother was too ignorant to understand the trouble. The other children were improperly fed and the baby slowly starving to death, too weak to cry, and filthy. It took five days to get the dirt out of baby's ears, a crust of dirt on its head. I thought it was a bald headed baby, but since I greased and washed the head for a week, I find it has hair an inch long. After many visits and coaxing and getting her a few clothes, she was persuaded to come to the clinic, and it was in the clinic under the supervision of the doctor the baby received the first bath it had since it was two days old. Now it is three months old. The mother was advised to take it off the breast, as her milk was not nourishing. The mother through an interpreter was instructed as to the feeding, as it was impossible for me to make a home visit that day. After this bath which was 12:30 P. M. the child immediately fell into a deep sleep and did not wake up until 10 P. M. that night, and as the Serbians are very superstitious about cutting hair and trimming nails and bathing I was very uneasy, until the next morning when I arrived at the home very early to see if things were all right. The mother with babe in arms met me at the door with a smile I shall never forget. She handed me the baby and proceeded to go to the house next door to borrow a small bath tub, brought it home, filled it with water; she had purchased talcum powder and vaseline and asked me to proceed with the bath. The baby was smiling all the time I was giving the bath; she went to sleep immediately.

Next I inquired how the milk was prepared. I found very little milk in the house. What was there had been boiled over the fire until it had a curd an inch thick over it. Such had been the baby's breakfast. I felt if she ever wakened up after that dose, she would live forever. So I went to Woodlawn, purchased bottles and nipples and a quart of good milk in a bottle, and proceeded back to the home to teach the mother how to prepare properly the milk. All this took two and one-half hours. I went back each day for four days. On the fifth day, when I arrived, the mother was bathing the baby, and very interestingly trying to get the balance of scales from the head. So by the next clinic day she arrived on time to have her baby weighed. It had gained $1\frac{1}{2}$ lbs. She was pleased and wept in gratitude for our help. It is now sleeping twelve hours a day and taking the milk fine. The father who never cared took an afternoon off from work that he could take care of the children, so that I might take the mother, who coughs and looks very pale, to the chest clinic. We took her to the chest clinic and found her lungs very clear. Got blood for Wassermann, which baby clinic doctor was very anxious to have. Found she suffered terribly from constipation and gas, and had old fashioned milk leg, the tissues had hardened, and the doctor said she had never seen anything like them. Found five very bad teeth, ordered them extracted.

Very truly,

Bee May.

Editor's note.—We congratulate Miss May on a good piece of work well done and, as we feel sure the readers of the Listening Post would like to know the end of the story, we should appreciate if she would send her final report on this case.

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BIENNIAL REPORT
Pennsylvania Department of Health

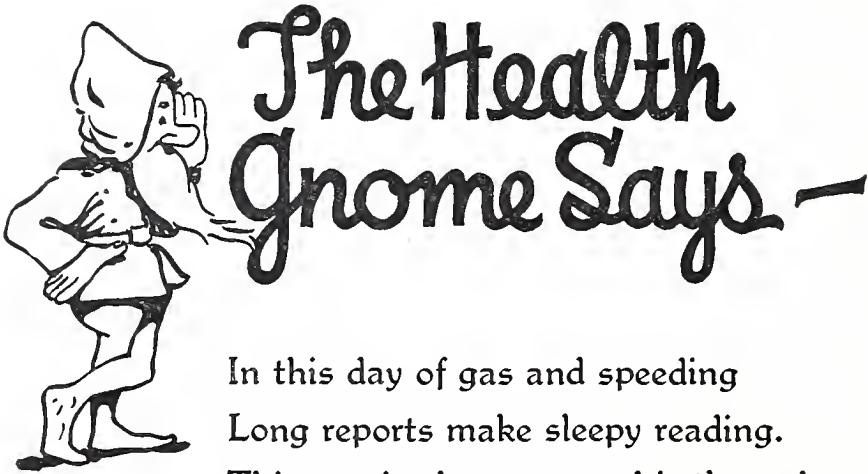
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Copies of this publication will be sent free each month to any person upon application to the Secretary of Health, Harrisburg, Pennsylvania.



In this day of gas and speeding
Long reports make sleepy reading.
This one is short, so read it through
And find out what your health slaves do.

The Listening Post

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Editor
William C. Miller, M. D.

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DEPARTMENT OF HEALTH COMMONWEALTH OF PENNSYLVANIA

By

DR. CHARLES H. MINER,
Secretary of Health.

I have the honor to submit herewith the Biennial Report of the State Department of Health for the two year period ending May 31, 1924.

Under the new administration, the Department was reorganized and its activities consolidated, enabling it to function at a lower cost than during any similar period in its recent history.

Pennsylvania has a population of over nine millions. Of this number 15% or 1,350,000 are foreign born, and 33% or 3,000,000 live in rural communities, giving us the largest rural population of any State in the Union except Texas and nearly twice that of New York State.

Pennsylvania's health problems involve 284,900 farmers, 225,000 coal miners, and 1,426,000 factory workers and their families. There are 39 cities in the State, 933 incorporated boroughs, and 1,567 townships. The cities, boroughs and first class townships have local Boards of Health and employ their own health officers, but the State Department of Health has entire responsibility for the protection of the health of the people in the second class townships and provides health officers and sanitary inspectors in these districts.

A special effort has been made to establish these districts on a full time basis in charge of men specially trained in public health work. To insure this special training, full time health officers or sanitary inspectors have received a six weeks' course at the United States Medical Field Service School in Carlisle, the officers in charge of this school having shown a spirit of cordial cooperation in this important work. In thirty-six districts trained nurses are being used as health officers and have already proven their value. The

nurse, besides instructing the family about sanitary conditions in and about the home, is able to advise the mother in the proper care of the sick and the needs of the other members of the family. Placing full time health officers in the districts has made it possible during the past year to reduce by three hundred the number of part time health officers.

Since the creation of the State Department of Health in 1906, the death rate from all causes has fallen 23 per cent. The death rate of 1906 applied to the population of 1923 shows a saving of more than 30,000 lives in one year, whose economic value to the State is estimated at \$75,000,000. Had the death rate of 1906 continued to prevail until the present time, more than a half million people now living would be in their graves.

The death rate from typhoid fever has been reduced 92% during this period. Tuberculosis has been reduced 40%.

A most important public health work has been to reduce the infant mortality rate. About 220,000 babies are born in Pennsylvania every year. In 1923, 19,349 died—that is, 88 babies out of every thousand born alive, died before they were a year old; most of them in the early months of life.

An intensive campaign has been carried on to reduce the infant mortality rate in those communities having a rate in excess of the average State rate. The work in each community is under the direction of a Chief of the Department, who in cooperation with all local agencies endeavors to arouse a spirit of competition between the communities and secure the employment of an additional nurse financed jointly by the community and the State. The general infant death rate has decreased 50% in the past 18 years.

The Department has concentrated not only upon the infant, but included the child of preschool age and the school children. There are in Pennsylvania today about 3,000,000 children. Of this number, fully 800,000 are underweight for their age and height and seriously retarded in their development. The future of these children is the future of the Commonwealth. Unless they are brought up to normal health, the population of Pennsylvania will be seriously weakened. These undernourished children afford a ready soil for all forms of infection, including tuberculosis, and are now costing the health forces of the home and the school many times what it would cost in effort to put them permanently in good condition.

The Health Department has undertaken the task of arousing the parents of the State to the danger which threatens their children. Rich and poor alike are confronted with this health problem and the Department is sparing no effort to convert these undernourished children into healthy and sound citizens of the future.

A campaign to eliminate diphtheria from Pennsylvania is in progress, and all children of preschool age whose parents will accept the offer are given free immunization against this disease. Toxin antitoxin for this work is furnished gratis by the Department. In the case of children of school age, toxin antitoxin is furnished at

cost by the State and the work carried on under the supervision of nurses and physicians in State, non-State clinics and health centers throughout the State. 83,084 children have already been immunized and there were 76 fewer deaths from diphtheria in 1923 than in the preceding year. This immunization work does not include Philadelphia and Pittsburgh, where intensive local campaigns are progressing.

During the school year of 1923-24, a determined effort has been made through the School Division to raise the standard of school medical inspection work throughout the State, enforcing universal vaccination of all children of school age, and including special examination and follow-up of parochial and private schools and academies as well as public schools. In over 1100 fourth class school districts medical inspection has been completed this year, parents notified of 101,162 defects revealed among the several hundred thousand children examined, and in thousands of cases the defects corrected by proper treatment.

The importance of dental hygiene, especially among school children, has been urged to the end that Pennsylvania now has more public dental activities than all the other States in the Union combined.

A campaign against tuberculosis in Pennsylvania has been carried on by the Department of Health through its 100 Clinics and 3 large Sanatoria to a greater extent than by any other State, and the campaign against venereal diseases has been actively continued.

As a result of the intensive campaign for a better milk supply and the Advisory Board regulation of April 4, 1923, 54 municipalities are now supervising milk supplies according to ordinances recommended by this Department. These municipalities have a total population of 1,000,000 and range in population from less than 1,000 to over 100,000. These figures do not include the cities of Philadelphia and Pittsburgh with a combined population of nearly two and a half million receiving either pasteurized or certified milk.

The Sanitary Water Board created in 1923 and charged with the administration of anti-stream pollution laws has already taken firm measures to keep clean over 3,450 miles of now clean streams and surveys of many more are in progress. Uniform policies for the treatment of polluting matters have been adopted and are in use. It is the purpose of the Board not only to protect the water supplies of the towns and cities of the State, but to save streams filled with game fish and available for water sports to the nature lovers and sportsmen of the State.

For the first time in the history of any State, the Pennsylvania Department of Health has sent forth over its highways a field laboratory equipped to test the drinking water used by the millions of motorists who annually traverse our highway system. Not only is the water tested, but steps are taken to correct insanitary conditions found in and about eating places along the highways. As soon as the tests are completed placards are posted stating the findings over the wells or springs or in the eating places.

The water supplied to over 6,000,000 people from public water works is under constant supervision through the Bureau of Engineering. No epidemic of typhoid fever chargeable to public water supplies under the control of the Department has occurred for three years.

To render greater service to the people of Pennsylvania through more intimate contact with the field forces of the Department with the public, we plan to establish field headquarters for the district engineers and their assistants.

The activities of every Bureau and Section of the Department have been carried on in an efficient manner by enthusiastic workers.

The Department had the honor of a visit during October 1923 of a group of health officers representing England, France, Russia, Belgium, Greece, Brazil, San Salvador and Scotland, sent to the United States by the League of Nations to study health work in selected States. Later, Major General Neeb, Chief of Military Medical Service in the Dutch East Indies spent several days studying health methods in Pennsylvania.

Weekly staff meetings have been held by the Secretary for the discussion of the work of each Bureau and Section and its program for the future. These meetings have proven of value in the solving of many of the difficulties confronting Bureau and Section heads and an inspiration to the Secretary because of the splendid enthusiasm manifested by each member of the staff in his or her particular field.

Representatives of the Department have been invited to address numerous meetings in all parts of the State, and wherever possible and compatible with the Department's policies, these invitations have been accepted.

Conferences have been held from time to time with representatives of water companies, boards of health, etc., all of which has tended to bring us into closer relationship with the public and those interested in health work.

The Advisory Health Board during this biennium has met three times: June 16, 1922, when regulations were passed supplementing the school vaccination law, more particularly by including examination of pupils by the school medical inspector for a visible vaccination scar which is declared to be the only valid evidence of successful vaccination.

The second meeting of the Board was held on April 4, 1923, at which time was passed a regulation requiring that all milk sold to the consumer as raw milk be obtained from tuberculin tested herds and that all other milk be pasteurized as defined in the regulation. A medical examination is required of those who handle raw milk, those who pasteurize milk and handle milk after pasteurization.

A third meeting was held on September 21, 1923, when in accordance with authority granted by the Act of June 28, 1923, the quaran-

tine periods and requirements for certain "minor" communicable diseases were altered to conform to latter day public health practice. At this meeting regulations were passed covering sanitation in boarding, lodging and tenement houses defining such buildings, requiring an adequate and pure water supply, proper sanitary means of excreta disposal, ample light and ventilation in sleeping and living rooms, general cleanliness of the premises and provisions as to the capacity of rooms to prevent overcrowding.

BUREAU OF COMMUNICABLE DISEASES

By

DR. J. MOORE CAMPBELL, Director,
Bureau of Communicable Diseases.

The Bureau of Communicable Disease Control was organized in 1923, combining for the first time under one head the former Medical, Tuberculosis Dispensaries, Venereal Disease and Restaurant Hygiene Divisions. This consolidation resulted in economies both as to personnel and finances; and at the same time the programs of the respective Divisions have either been enlarged or executed more intensively.

EPIDEMIOLOGIC SECTION

This section, formerly known as the Medical Division, is responsible for the prevention and suppression of epidemic diseases; supervises local boards of health in first class townships, boroughs and third class cities; collects statistics in connection with the communicable diseases; and records studies of epidemics. The central office personnel comprises the Chief, his associate, assistants and necessary clerks. The field forces include a medical representative in each county (except Philadelphia, with which the city is co-extensive) and a number of district health officers in charge of quarantine and nuisance work in second class townships; the latter covering districts of varying extent, depending upon population and facility of travel.

On January 1, 1923, over six hundred health officers were working part-time with inadequate pay. This number has been reduced to three hundred and two through the appointment of full-time men on salary, who cover large territories. Also, health officer duties have been assigned to a number of Department nurses in addition to their regular routine. Hundreds of contacts by the nurses thus are being made to the advantage of family groups through the introduction of other phases of the Department's activities.

In September, 1923, a full-time medical health officer was appointed for the district composed of Butler, Crawford and Venango Counties.

In June, 1923, a law was enacted permitting the Department's Advisory Board to make and alter quarantine regulations. Consequently the quarantine procedure was redrafted. The most notable changes relate to measles, German measles, whooping cough, chicken-

pox and mumps. In these diseases notification and placard are required but restraint has been placed only upon the patient and susceptibles.

During the past two years there have been the usual fluctuations for the diseases just mentioned. During the season of 1923-1924, however, measles were unusually prevalent, approximately 100,000 cases having been reported and quarantined. The number of scarlet fever cases has declined during the past two years. The diphtheria rate, also, is decreasing.

Smallpox is not a disease usually found in Pennsylvania; outbreaks, however, sometimes occur as the result of the introduction of cases from the outside. Therefore, the Department attempts to counteract the consequences of these importations rather than to combat a condition always present. Industrial activity, with the introduction of outside labor, always spells smallpox. These outbreaks are usually suppressed before the number of cases exceeds two or three, as health authorities are insistent in applying vaccination or quarantine, or both, to all contacts of active cases that diligent search can locate. 1923 was an average year—183 cases, no deaths. The early months of 1924 showed a rate above the average owing to labor importation and the migration of the southern negro. Philadelphia, Chester, Pittsburgh, where the disease has been somewhat virulent, and Donora, in Washington County, have contributed most of the cases.

Typhoid fever has been steadily declining, 1923 showing a decrease of approximately 500 cases as compared with the previous year, and 1924 showing, to the end of May, a marked decline as compared with the corresponding period in 1923. The death rate, 4.7 per 100,000, in 1923 was the lowest in the Department's history. Milk epidemics, during 1923, occurred in Lewistown, Locust Gap and Newfoundland and a troublesome outbreak at Karthaus was also in part due to milk. Outbreaks traceable to private water supplies occurred at Arden Mines and Columbia.

Two cases of leprosy were reported during the year, 1923, one from Philadelphia and the other from Shenandoah, Schnylkill County. The latter, a well advanced case of the tubercular type, was a Spanish woman who eventually was deported.

TUBERCULOSIS CLINICS SECTION

By

DR. EDGAR T. SHIELDS, Chief,
Section of Tuberculosis Clinics.

In the period covered by this report fifty-five thousand residents availed themselves of the facilities offered by the Department of Health for the prevention, recognition, treatment and eradication of pulmonary tuberculosis. The Department's tuberculosis program has remained intact from previous years. During 1921 seventy-nine out of every one hundred thousand residents died from tuberculosis

of the lungs. In 1923 the death rate fell to 74.7. During this period the death rate from all forms of tuberculosis declined six and two thirds percent.

The Department's policy on clinic overhead charges has been changed to meet present conditions. Previously, the state paid all expenses in maintaining clinics. Now, local communities are expected to shoulder a share of the burden. This change was made, not only because of a highly restricted state budget, but on the principle that clinics are operated for local benefit, under local administration, and, properly, a share of the expense should be borne by the community.

One hundred State Chest Clinics are now located in accessible communities throughout the state, exclusive of Philadelphia and Pittsburgh. One hundred and thirty-four physicians, appointed by the Secretary of Health and paid a small remuneration by the state for their services, serves the people in these clinics. The Department pays the nurses and furnishes clinic equipment and supplies free of charge.

Community support has stimulated local interest, which, linked with state aid and supervision, has resulted in making the clinics permanent, giving them an official position, maintaining a high standard of administration and furnishing a systematic means by which indigent tuberculous patients and children with latent infection are cared for and admitted to the State Sanatoria.

In September, 1923, ten State Chest Clinics in Philadelphia were transferred to the Philadelphia Department of Health and the Pittsburgh Clinic was taken over by the City Health Department.

Exclusive of the State Clinics, the Section has provided seventeen Admission Centers for the State Sanatoria—one at White Haven, one at Ambler, one in Pittsburgh and fourteen in Philadelphia. These Admission Centers are clinics supported entirely by independent agencies approved by the Secretary of Health. With one exception they belong to City Health Departments and Institutions specializing in chest work.

The state's tuberculosis system has been extended by establishing sixteen new clinics. Five clinics were closed because of the limited requirements in their respective territories.

Five phases of tuberculosis have been emphasized in the State Department's general plan—first, diagnosis; second, early sanatorium care; third, treatment of indigent and referred patients; fourth, care of children with latent tuberculosis; and, fifth, prevention through education.

Tuberculosis being a disease of the young and early adult life, work among children has been increased. Special attention has been given to those who are physically weak, to the undernourished, to contacts with tuberculous members of a family, to children who have not fully recovered from the effects of communicable diseases and who have lowered resistance to respiratory infections. Where

facilities were present the establishment of nutrition clinics was encouraged. Wilkes-Barre, Sunbury and Mt. Carmel have done excellent work with such classes.

The total cost of clinic operations, exclusive of nursing service, was eighty cents per patient in 1923 as against ninety-one cents in 1922.

The Section has cooperated with and given its services to city and borough health authorities, the medical profession, Mothers' Assistance Fund, National Tuberculosis Society, the Anti-tuberculosis Societies, health, welfare and philanthropic organizations. It has aided counties in securing a favorable referendum at the polls for the establishment of County Tuberculosis Sanatoria.

There is close cooperation with the Section of Medical School Inspection in follow-up work and examination of children reported as having gland and chest conditions. Such children are placed under the observation and treatment of their family physicians or a nearby clinic.

The following counties have voted favorably for local Tuberculosis Sanatoria within the past three years:—Delaware, Montgomery, Beaver, Luzerne, Berks, Cambria, Lackawanna, Schuylkill, Erie, Dauphin, Westmoreland, Northampton and Mercer. Beaver, Berks and Lackawanna Counties have their sanatoria in operation. Lancaster plans opening its sanatorium in the near future under the supervision of the Anti-tuberculosis Society of Lancaster County.

During the two years' period covered by this report, thirty-six thousand three hundred and thirty-two patients were examined and studied in State Clinics, of which nine thousand two hundred and twenty-four were found to be tuberculous. Eighteen thousand two hundred and fifteen old tuberculous patients returned for examination. Clinic visits totalled one hundred and twenty-six thousand five hundred and thirty-three. Twenty-two thousand eight hundred and ninety-seven children were examined by the clinics which were open during fifteen thousand six hundred and thirty-two days.

The Section received seven thousand two hundred and eighty-two applications for sanatorium care and notified, routed and directed six thousand two hundred and nineteen patients to the sanatoria.

SECTION OF VENEREAL DISEASES

By

DR. E. S. EVERHART, Chief,
Section of Genito-Urinary Clinics.

The procedure of venereal disease control comprises four main phases: medical, educational, legal and sociological.

For treatment purposes, 54 clinics are being operated in strategic localities under State subsidy, of which 7 were opened during 1922-24. The physicians attached to these clinics, exclusive of any of the hospital staff, number 65. The State nurses assigned total 37.

While treatment of voluntary patients is the clinic's prime object, a special effort is made to discover and control the persons who are found to be sources of infection; this burden resting largely upon the nurse, who by tactful questioning often obtains the necessary information.

The number of cases treated during the period was 17,841. Persons who cannot pay for private treatment are treated in the clinics. Venereal patients are notably lax in their continuation of treatment; and those who are least able to pay for long, continued treatment are most often affected. Therein lies one of the chief reasons for the dissemination of these diseases. In order that this class may be made non-contagious, they must be given free treatment in clinics provided for that purpose.

A patient entered in the clinic is required to continue treatment until such time as it is no longer possible for him to transmit disease to others. To follow up a patient until that time is another of the clinics' aims.

In the period which this report covers the number of patients made non-contagious was 10,955.

It is gratifying to be able to report a lessened incidence of cases of new syphilis seen by physicians in private practice and in free clinics as compared to a few years ago.

The State Clinics' social service has had its share in stimulating others to perform the same type of service, thereby increasing the effectiveness of venereal disease control. In most instances, physicians have welcomed State Clinics to their communities, for the reason that they are thereby relieved of performing a service to indigents which otherwise they would feel morally bound to give.

The legal phase involves two elements; first, medico-legal activities; second, law enforcement. The State Police have been appointed health officers, and they therefore operate in a dual capacity, though their duties are kept separate and distinct. When the State Police are functioning as health officers in a so-styled health raid, they act under the "reasonable suspicion" clause of the quarantine law, (see Act No. 1116, P. L. 1921, page 207, Section 2) the apprehended prostitutes being taken at once to a detention house, where the bail feature is unavailing. The number thus apprehended during 1922-24 was 269.

The public health menace patient, whether the prostitute or the male who does not protect others from disease, must be isolated and controlled. 28 places of detention are utilized where diseased prostitutes are treated and when possible, rehabilitated. Detentional facilities for the male are also available. 7 detention wards for women, 4 for men have been opened in the past two years.

Patients who neglect treatment come within the definition of a public health menace, and as such, may be quarantined. The Advisory Board's regulation is the authority for the state's quarantine

procedure, when read in connection with Act No. 341, P. L. 1923, Section 2. (See Advisory Board Regulations of 1923.)

By law, all inmates of penal institutions are required to be examined, and, if found infected with a venereal disease, treated.

During the past two years, at the Department's instigation, almost all penal institutions have provided proper treatment facilities.

The Abatement and Injunction Law (see Act No. 410, P. L. 1921, page 1113), which is aimed at the owner of houses of prostitution, has been successfully applied in some localities.

The Department has not overlooked the large element now posing as clandestine prostitutes. Street walking and other phases of clandestine prostitution are investigated and action taken whenever indicated. The Section does not believe that the mere closing of a red light district through criminal process solves the disease problem in any locality.

The educational feature involves application of all modern publicity methods, namely, lectures, distribution of pamphlets, use of motion pictures, posters and working with special groups, such as industrial, Parent Teachers' and Women's clubs. Men and women lecturers have addressed many thousand high school pupils throughout the State. A great demand exists for this service. During the biennium, 66,607 people have been reached by the staff lecturers.

It is recognized that no program is complete without an efficient social service. The Department stimulates the selection of properly qualified social case workers in communities. While some cities have capable forces, smaller towns are less fortunate; and in these places, venereal disease can often be traced to a comparatively few delinquents who should be recognized and disposed of by an efficient social service.

SECTION OF RESTAURANT HYGIENE

By

HOWARD M. HAINES, Acting Chief,
Section of Restaurant Hygiene.

The Section of Restaurant Hygiene is charged with the administration of the laws of May 25th, 1915, and May 5th, 1921, which demand that no person shall be employed nor permitted to work as a public food or drink handler without having first obtained a certificate from a reputable doctor of medicine, certifying that such person is free from communicable diseases.

The law, in addition, prohibits the furnishing of dishes or utensils in eating or drinking places unless thoroughly cleansed after each individual use. Common towels also are forbidden as well as the common drinking cup. Fluids, vegetables and other articles of food which are eaten uncooked cannot be exposed for sale unless thoroughly screened.

The restaurant hygiene work done by boards of health in the 1020 municipalities in this Commonwealth is under the direct supervision of this Section. This is largely handled through the medium of monthly reports. During 1922 and 1923, 83,774 public eating and drinking places were inspected in municipalities and 124,432 reports of medical examination received.

In second class townships, there being no boards of health, this work is accomplished directly through the State's health officers and nurses. In 1922 and 1923, there were 2,543 inspections made and 15,885 reports of medical examination received.

This Section issues orders to all common carriers requesting monthly reports, indicating the number of dining cars and restaurants operated in the State of Pennsylvania, the number inspected, the number of employes and the number of employes examined each month. It also makes a sanitary inspection in all the eighty-five county fairs, collecting health certificates from all food and drink handlers.

The average number of dining cars inspected monthly by railroad inspectors, during 1922 and 1923, was 98 and the average number of employes examined 1310. Eight restaurants operated by railroads were inspected by railroad inspectors each month, and an average of 271 food and drink handlers examined.

During 1922 and 1923, there were 5558 stands at county fairs examined and 12,311 reports of medical examination collected. Corrections were made at 1,692 stands.

BUREAU OF VITAL STATISTICS

By

DR. WILMER R. BATT, Director,
Bureau of Vital Statistics.

During the calendar year 1923 there were registered in the State Bureau of Vital Statistics 120,607 Deaths, 217,728 Births, 8,438 Stillbirths and 77,550 Marriages.

37,722 certified copies of birth, death and marriage records were issued. The total amount returned to the State Treasurer for fees received in this connection was \$18,861.00. In addition to the records for which fees were received 4,260 searches of records were made for verification of ages for coordinated branches of the State service, for which no fees were received.

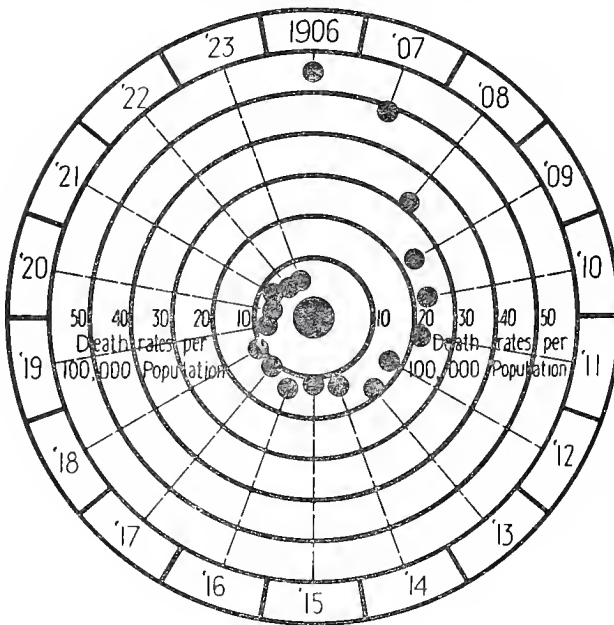
The general mortality rate (deaths from all causes) was 13.3 per 1,000 of population and the birth rate was 24.1. These rates would indicate a very satisfactory condition of healthfulness for the people of the State as a whole.

While the general death rate was slightly higher than for the year 1922, owing to the excess of deaths from respiratory diseases in the early months of the year, the death rates from the individual

causes which are regarded as an index of sanitary effectiveness, notably typhoid fever 4.8 and tuberculosis in all forms 85.5 per 100,000 of population, also infant mortality with a rate of 88 per 1,000 births, show a high degree of control.

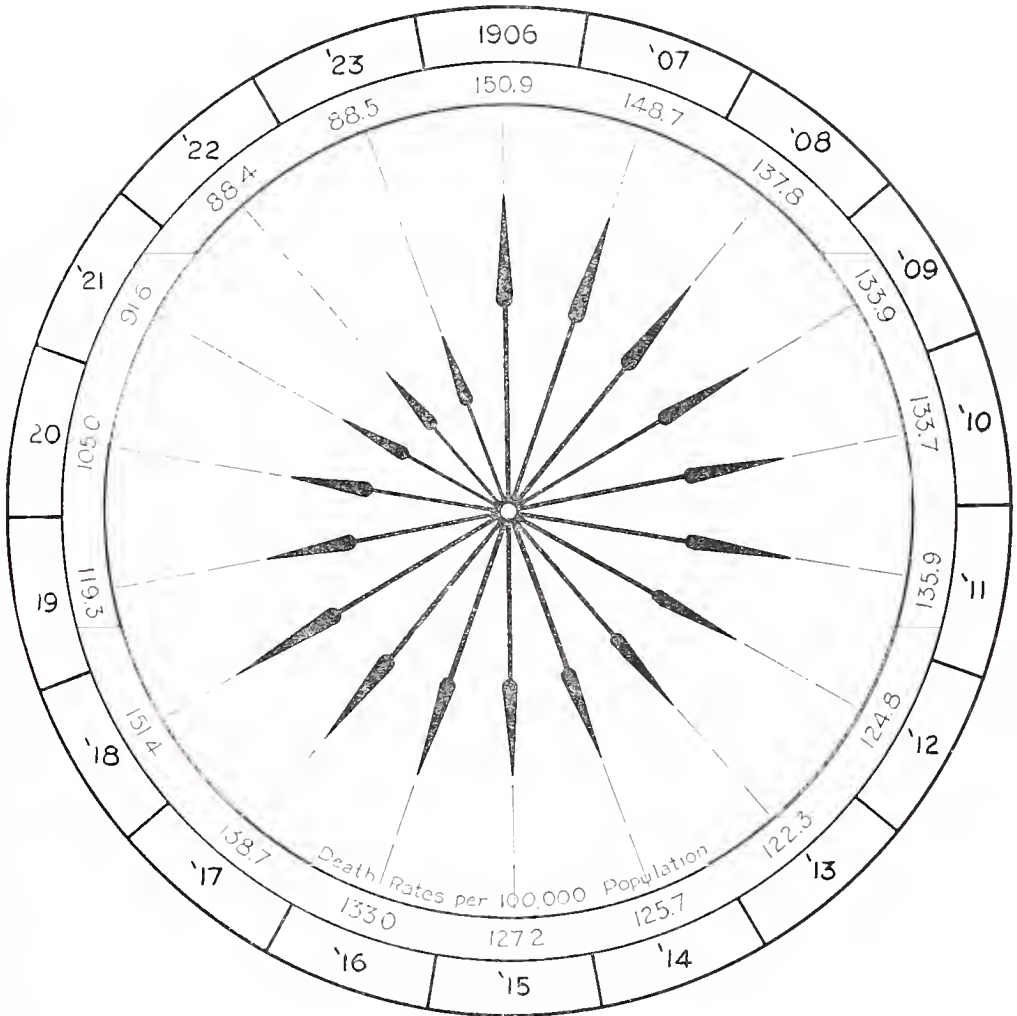
In addition to the records permanently filed as above indicated, reports of 190,019 cases of communicable diseases were received and tabulated. Records tabulated in relation to the medical inspection of school children numbered 534,849, sanitary inspection of school buildings 6,325, teachers' reports 5,633 and tuberculosis records in reference to the patients at sanatoria and dispensaries 20,818.

PENNSYLVANIA APPROACHES THE TYPHOID BULL'S-EYE



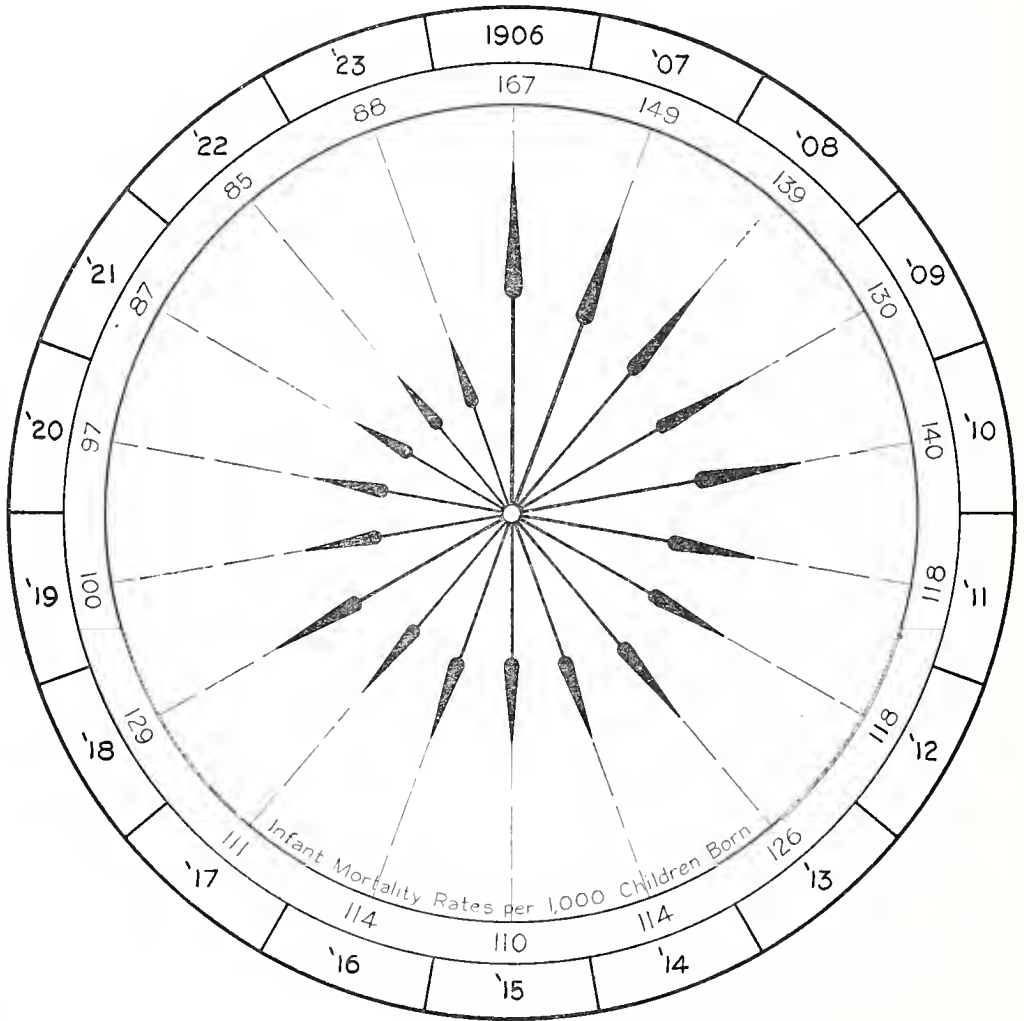
THE SCORE IN 1906 WAS 3917 DEATHS
IN 1923 IT WAS 438

TUBERCULOSIS IN PENNSYLVANIA



42% REDUCTION AS THE RESULT
OF 18 YEARS INTENSIVE WORK

SHORTENING THE FATAL ARROWS FOR BABIES IN PENNSYLVANIA



INFANT LIFE WAS ALMOST TWICE AS SAFE IN 1923
AS COMPARED WITH 1906

REPORT OF THE BUREAU OF ENGINEERING

By

W. L. STEVENSON, Chief Engineer,
Bureau of Engineering.

The Secretary of Health announced his policy of establishing engineering field offices in January 1924, and the first of these will be opened on July 1, 1924. The district thus to be served comprises eight counties in the northeastern part of the State.

The law places the issuance of waterworks and sewerage permits under the control of the Secretary of Health, the latter, in his capacity as Chairman of the Sanitary Water Board; this Bureau making the necessary field investigations, reviewing the plans and preparing the reports. During the biennium, 205 waterworks and 176 sewerage permits under the Bureau's guidance were issued.

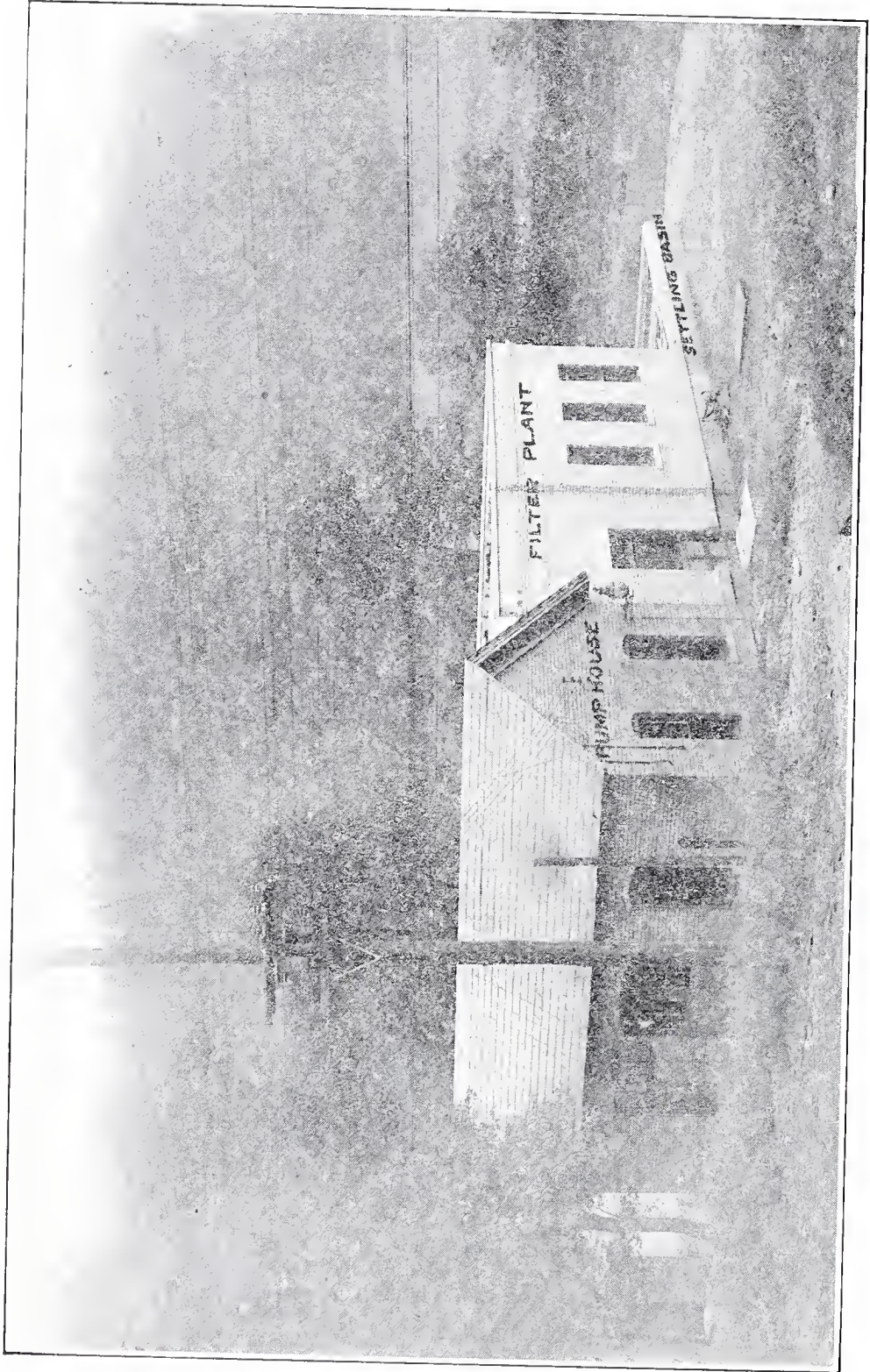
Improvement in public water supplies is of primary importance and is a major Bureau function, as there is a very close relation between improved public water supplies and the reduction of typhoid fever.

During the biennium 16 new filter plants have been constructed and put into operation, bringing the total of such plants in the State up to 172, serving $4\frac{1}{2}$ million people. Others are in course of construction. The new filter plant at Zelienople typifies the changing of a contaminated and an unsatisfactory public water supply into a safe and a satisfactory one by the installation of a modern filtration plant.

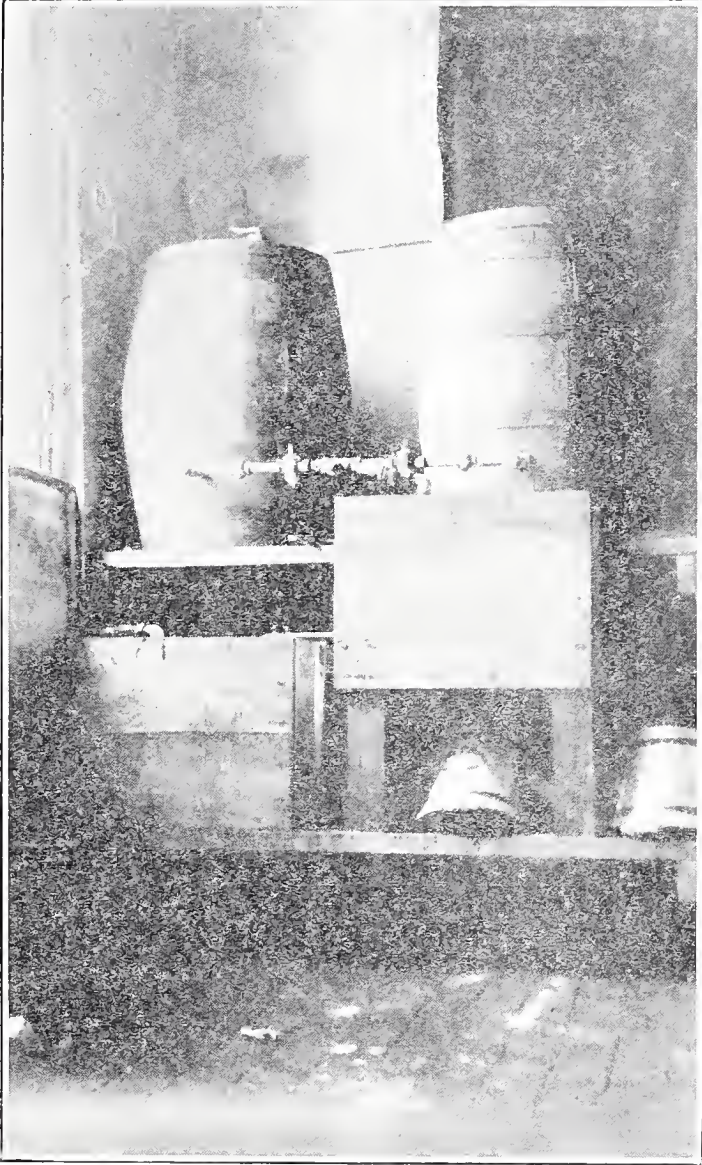
For water supplies reasonably safe and not needing filtration at this time, chlorination devices have been installed in 65 instances during the period of this report. These constitute a precautionary safeguard against occasional pollution. Some of them are quite elaborate while others, such as the apparatus shown are inexpensive and can be readily installed. There is now a total of 330 plants of this type in Pennsylvania, serving 1,655,300 people.

The Autumn of 1922 was marked by a serious water shortage which reached its height in January 1923. It was caused by a deficiency in rainfall, and a resultant depletion of stored water supplies. To meet this situation the Bureau devised and executed emergency measures. In December 1922, telegraphed requests for information as to needs were sent to more than 300 waterworks' officials. Advice as to conservation measures was then promptly issued, and the Bureau engineers in addition conferred in the field as to requirements. Fortunately, rain fell shortly after the first of the year and afforded some measure of relief, but the drought continued during the summer of 1923, being especially felt in a wide belt extending from Sunbury on the Susquehanna River to Mauch Chunk on the Lehigh River.

The city of Washington, with 30,000 inhabitants, particularly was in desperate plight. Its water supply became virtually exhausted. The Bureau assisted by the splendid cooperation of the officials, Chamber of Commerce, civic organizations, the local newspapers,



Zelenople Filtration Plant.



Hypochlorite of Lime Dosing Apparatus.

and the citizens themselves, established rigid rationing measures, which gradually developed a reserve supply. Moreover, not a single case of typhoid fever or other water-borne disease developed, despite the use of water supplies other than furnished by the public system. In connection with these, the Bureau examined and re-examined, before approval, more than 1,000 wells and springs, making accessible to the public those which were found safe for use.

SEWERAGE

The biennium has been marked by notable accomplishments in connection with sewerage problems. Sewer systems were installed which have gone far to relieve insanitary conditions in many of the municipalities. Several projects of magnitude were executed or advanced toward final completion.

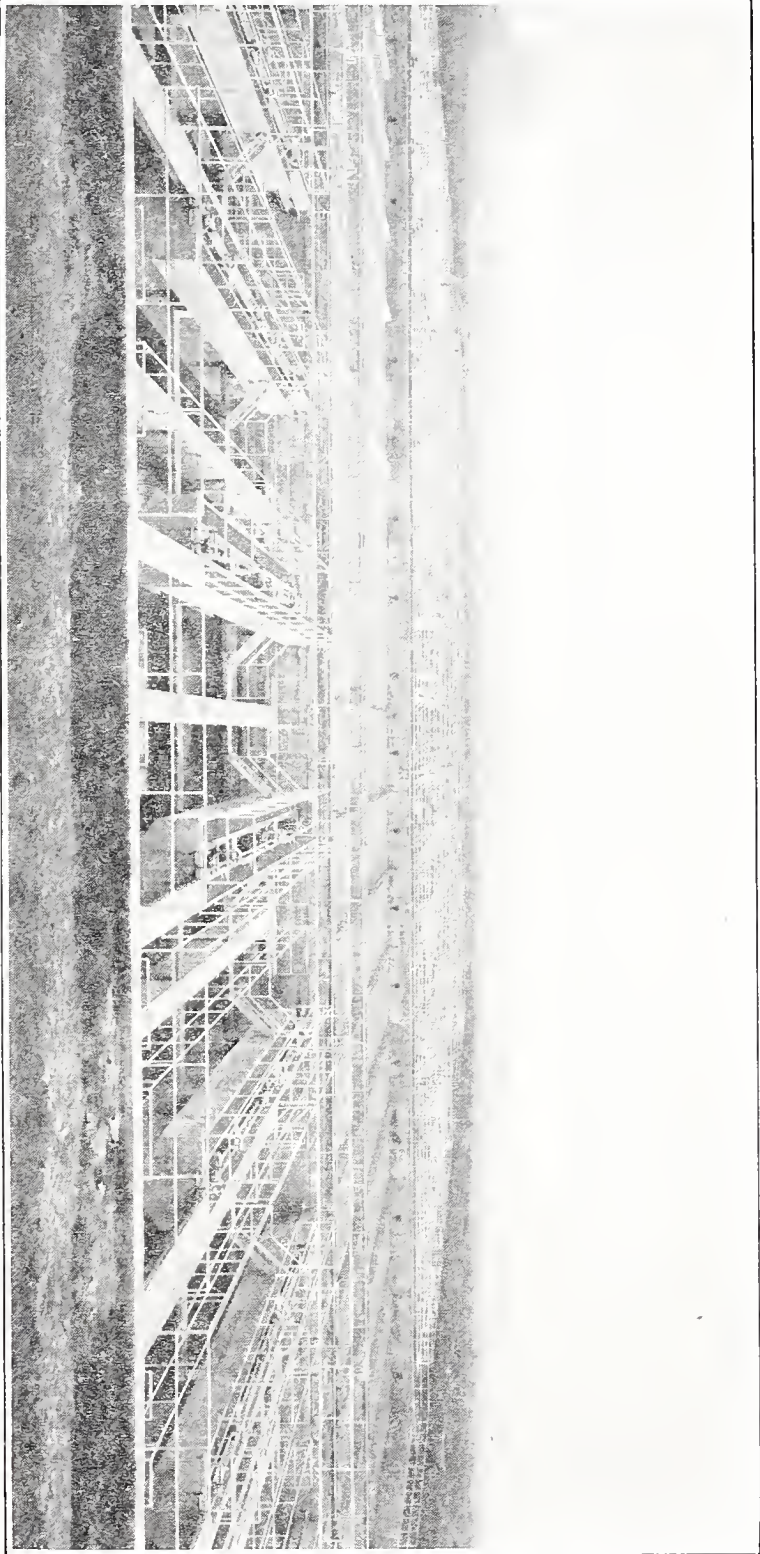
The Beaver River, for example, has in Pennsylvania almost 300,000 people residing on its watershed, more than half of whom are in communities discharging sewage into this stream or its tributaries. Waterworks with filtration plants are located at the principal towns, all taking water from the various streams in the basin below the points of discharge of extensive municipal sewer systems serving approximately 150,000 people. The industries, also, produce great quantities of industrial wastes. This combination of sewage and industrial waste-load on the river has made it extremely difficult to produce a satisfactory water supply. Accordingly, the Department has adopted a policy looking toward a reduction of the sewage load in the streams by the installation of sewage treatment works. At the end of the biennium there were seven works in operation; and for eleven others, plans have already been prepared or are in the course of preparation.

The city of Erie has adopted a comprehensive metropolitan sewerage plan and is completing the installation of the large intercepting sewers. At Pittsburgh actual construction of portions of intercepting sewers in two densely populated valleys has already resulted in a partial remedy of almost intolerable conditions heretofore existing.

Philadelphia has completed an intercepting sewer along the east bank of Cobbs Creek but the stream was still polluted by sewage from the Delaware County municipalities on the west bank. Through the Department's efforts, plans have been prepared for an intercepting sewer along the west bank and an agreement made with Philadelphia for admission of the Delaware County sewage to the city's sewer. This will result in restoring to a clean condition the stream flowing through public park property.

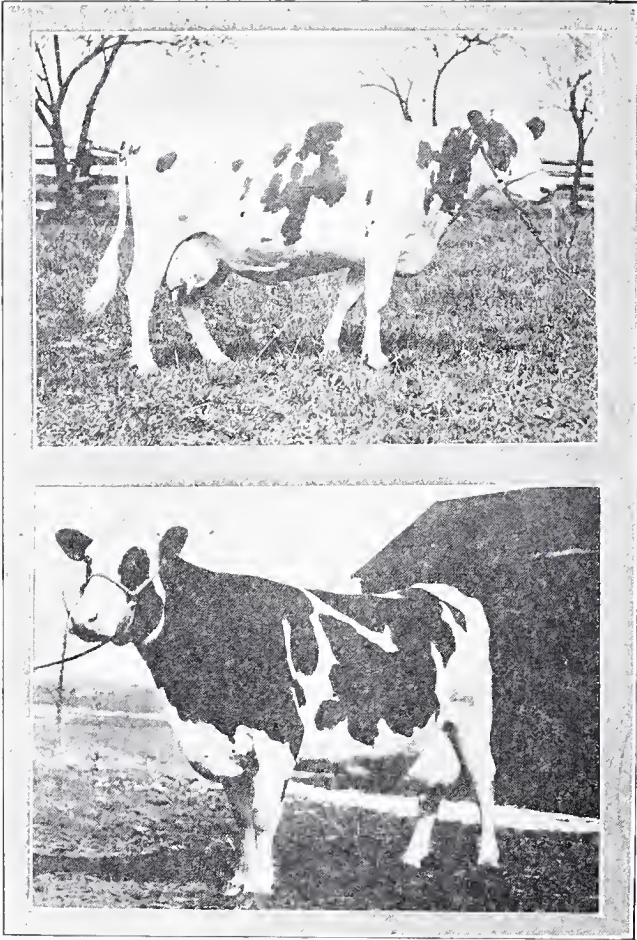
In furtherance of its sewage program Philadelphia has built and put into operation during the last two years the Northeast Sewage Treatment Works (the largest plant of its type in the world) designed to handle 60,000,000 gallons of sewage daily.

Twenty-three new sewage treatment works have been installed throughout the State during the two year period, which represent a very real accomplishment. This makes a total of 204 plants now operating in Pennsylvania.



Northeast Sewage Treatment Works, City of Philadelphia

MILK CONTROL



Which cow is tuberculous?

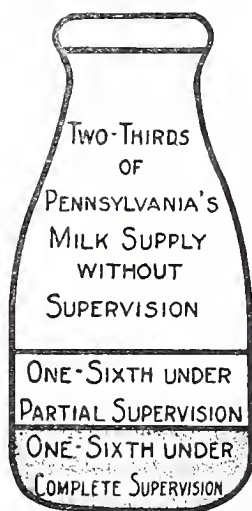
Both cows shown above are apparently well and of great value as milk producers. However, the tuberculin test gave the first intimation that one of them was diseased and thus indicated that its milk might destroy human health.

The Legislature, in 1919, passed a law to protect the calves and pigs of the State against bovine tuberculosis. In 1923, the Advisory Board of the Department of Health passed a Regulation protecting the children of the State against this disease.

By law, all milk for household purposes must be handled by those under medical supervision. It is also required that such milk must either be effectively pasteurized or from tuberculin tested herds. Milk containers also must be thoroughly cleansed. Already one sixth of the State's population receives milk made safe by complete supervision. Most satisfactory progress, in this respect, has been made during the past two years.

In the two years covered by this report, 41 municipalities have adopted milk ordinances carrying the Department's recommendation.

These municipalities usually employ full-time or part-time milk inspectors, many of whom have been assisted in placing their work on an efficient basis. In this connection hundreds of dairy farm and milk plant inspections were made by the Bureau with municipal inspectors.



SAFE MILK IS POSSIBLE DEMAND IT!

As Supervision Increases
The Use of Milk Increases

Many municipalities have assumed direct control of their milk supplies under the Regulations of the Advisory Board, already mentioned. In consequence, thousands of dairy herd owners have applied to the Bureau of Animal Industry, Department of Agriculture, for the tuberculin testing of their herds under the official plan. The testing of herds for the sale of raw milk to the consumer is strictly a public health measure.

The milk supplied to the three State Sanatoria for Tuberculosis is under careful supervision by the Milk Division at the points of production and in the pasteurizing plants at the institution.

In January 1924, the first meeting of the Municipal Milk Inspectors of Pennsylvania was held in the House Caucus Room, State Capitol. Eighty-two persons were present. A permanent organization was then formed, known as the Pennsylvania Association of Dairy and Milk Inspectors. This association will meet every January during the State Farm Products Show—obviously a forward movement in milk control in Pennsylvania. It is the first organization of its kind in any State.

RURAL SANITATION

Much of the work of the Rural Sanitation Section is concerned with nuisances and their abatement. Based upon present needs, the Advisory Board, on April 4, 1923, adopted revised regulations, which cover specifically such matters as sewage disposal, decaying matter, objectionable establishments, industrial wastes and private water supplies.

Nearly 2500 complaints were entered during the biennium. These were referred to the Department's health officers and also to local boards of health for inspection and abatement. Sanitary surveys in villages and second-class townships were also made, and assistance given for such surveys in municipalities, where help was needed. Part of the Bureau's routine involves surveys of properties on watersheds of streams used as public water supplies. Where stream pollutions were discovered abatement proceedings followed.

More than 80 County Fair Grounds were under the supervision of the Bureau relative to pure water supplies, disposal of sewage and garbage, manure and other refuse. This very important protection served the 2,000,000 people who attended these fairs.

The increasing use of summer homes and camps has brought its problem, to meet which the Bureau has undertaken the distribution at such places of 25,000 "Common Sense Sanitation" cards which plainly state the fundamental and general principles of sanitation. In addition, the ever increasing automobile travel through the State has brought about the establishment of tourists' camps. Work with a view to making such places safe and sanitary was instituted.

HOUSING

In July 1923, the Bureau assumed the work of the former Bureau of Housing, since which time it has thus functioned under the supervision of a Housing Engineer assisted by the other Department engineers.

This work is confined to boarding, lodging and tenement houses, as specified in the Housing Act of 1913. The Bureau prepared, and the Advisory Board on September 21, 1923 adopted, Orders and Regulations for the sanitation of such places. These were duly promulgated and have the force of statutory law. It is the duty of the local boards of health to enforce them. Using these Orders and Regulations as a basis, the Bureau prepared a model form of ordinance, and in cooperation with the State Chamber of Commerce has conducted a vigorous campaign to have it adopted by twelve selected municipalities. This has already been accomplished in Reading, other cities are pending. The Bureau received from the former Bureau of Housing 102 open cases, all of which have been closed.

CHEMICAL LABORATORY

The Chemical Laboratory's chief function is the analysis of water, sewage and industrial wastes. More than 1200 samples of water were analyzed to determine potability. Each test involves a routine procedure of 16 determinations. The resulting figures are used in

conjunction with the bacterial findings and field survey to determine the quality of water for domestic use or for certification to common carriers in interstate traffic. Nearly 100 samples of sewage and industrial wastes were also analyzed, to obtain information as to proper treatment and disposal. The sand from filter plants in use, or in course of construction, is submitted to mechanical analysis by the Laboratory to determine its suitability.

At times a water supply may have an objectionable taste or odor, and a microscopic examination of a sample of the supply (46 of which were made) will frequently locate a specific microscopic organism causing the trouble. Proper treatment is thus indicated for the disturbant's elimination.

During the past two years the Laboratory has analyzed more than 200 samples of narcotics seized from drug addicts or vendors in the State; and as a sequel to these tests laboratory employes spent 47 days in court as witnesses in cases brought against such violators of the law.

The Laboratory has carried on miscellaneous studies of special problems, such as the effect of acid mine drainage on streams, corrosion of water distribution pipes, methods of treating laundry and tannery wastes and the effect upon plumbing of chlorine as used in public water supplies.

EPIDEMICS

Epidemics of typhoid fever, dysentery and other intestinal disturbances do not occur as frequently as in former years, this being due in large measure to the more rigid control of public water supplies and milk. The largest occurred in Shamokin where there were 110 cases of typhoid fever, the source of infection being attributable to a milk supply used quite generally throughout the municipality. As a direct result this dairy was discontinued by the owner.

In a little village near Johnstown, 19 cases of typhoid fever occurred due, it is believed, to an infected semi-public water supply serving a portion of the village. The hillside above the spring had been used for toilet purposes by men working on a nearby highway; one of them had recently had typhoid fever.

Several outbreaks occurred in mining villages where public water supplies were lacking. The private sources used by the inhabitants were subjected to contamination by a very indifferent method of sewage disposal.

In 1921, a typhoid fever outbreak occurred in the eastern part of the State. Numerous suits were filed against the water company alleging its responsibility in causing the outbreak because of failure to supply a safe water to its consumers. In 1923, one case was tried in court and a verdict of \$2,000.00 damages was awarded the widow of a man who died of typhoid fever during the outbreak, thereby establishing a precedent by the courts in Pennsylvania as to the responsibility of a water company to furnish a safe water supply.

MISCELLANEOUS

In the summer and fall of 1922, a strike occurred in the bituminous coal regions, resulting in the eviction of miners and their families from company houses in certain sections of the western part of the State. The National Guard established camps in the district, and representatives of the Bureau cooperated with the military authorities in arranging for a safe camp water supply and sewage disposal. To facilitate the required work in the miners' camps, headquarters for an engineer were established at Uniontown, from which point the engineering activities were supervised.

At one time more than 5600 people were found in 60 separate camps, ranging from groups of 6 to 300. Reliance for water had to be placed upon wells and springs of indifferent quality. The problem of sewage disposal and general camp sanitation was most difficult, taxing the Bureau's ingenuity and resourcefulness. The success accompanying the Bureau's efforts is evidenced by the fact that but one small outbreak of typhoid fever resulted, which being immediately discovered, was placed under control.

Harveys Lake, Luzerne County, and Conneaut Lake, Crawford County, are the two largest natural bodies of water in Pennsylvania. They have been intensively developed as summer resorts and are visited annually by thousands of people. A campaign was conducted by the Bureau in each place in the summer of 1923, at which time water supplies were examined, the dangerous ones eliminated and improvements effected as to others. Methods of sewage disposal also were investigated and improvements made. The general sanitation problem of each place was carefully studied, printed instructions were then given to the permanent summer population at Harveys Lake in addition to being posted in prominent places.

To protect the health of the State's citizen soldiery, improvement in the sanitary conditions of villages in the environs of the encampment grounds was undertaken; this work at the close of the biennium was progressing in a satisfactory manner.

The Bureau of Engineering investigates water supplies used by common carriers engaged in interstate traffic and on the basis of its report a certificate of approval is furnished the U. S. Public Health Service and in turn issued to the railroad or steamship line involved. One hundred and ninety-two supplies were thus examined and passed upon during the two-year period.

By law the Department of Health approves sites for County Tuberculosis Hospitals. Inspection of such sites devolves upon the Bureau. Such an inspection involves a study of water supply, sewage disposal, general drainage conditions, accessibility and consideration of existing buildings. During the biennium eight such sites were examined.

TUBERCULOSIS SANATORIA

By

DR. WILLIAM G. TURNBULL,

Deputy Secretary of Health.

During 1923-1924 the State Department of Health has operated Sanatoria at Mont Alto, Cresson and Hamburg. In this time 5,830 patients were treated in the three Sanatoria.

There has been no change in the capacity of the institutions with the exception of Mont Alto. Until June 1, 1923, under contract with the Federal Government, the Mont Alto Hospital was maintained as a Veterans' Hospital. At this time the contract was cancelled by the Veterans' Bureau. This made it necessary to close the Mont Alto Hospital until such changes and adjustments could be made that it could be opened again by the State. At the same time the children were transferred from Mont Alto to Hamburg in order to allow the building formerly occupied by the children to be used as a hospital for the adult camp patients. This reduced the capacity of Mont Alto from about 730 patients to 300 patients. As the necessary adjustments were made this number was gradually increased until May 1924, when 525 adult patients were being cared for in the camp.



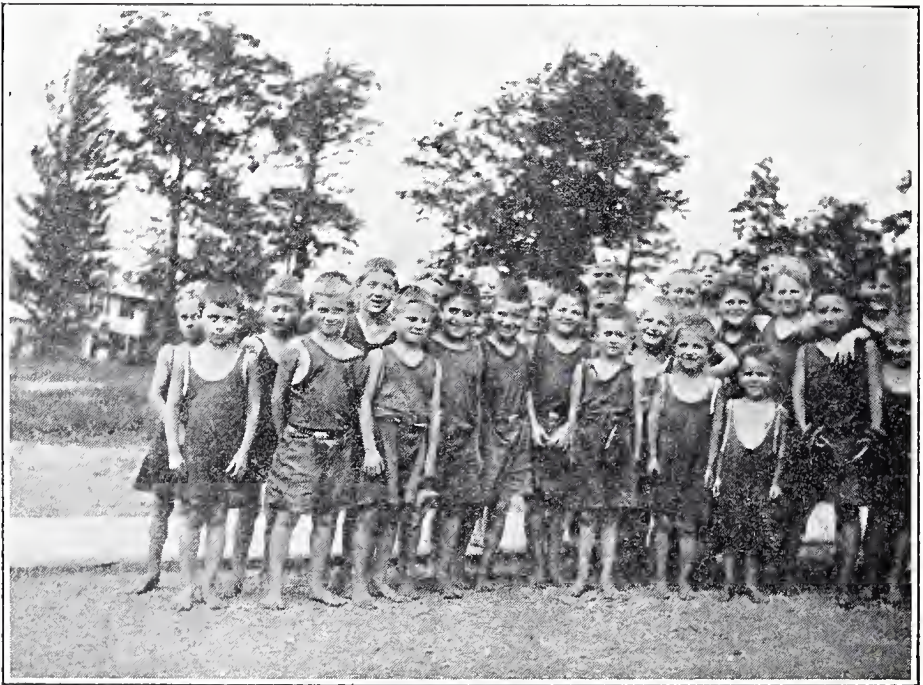
Play Time for Sanitorium Children.

On June 1st, 1924, the building formerly used for the Veterans' Hospital was reopened as a children's hospital with a capacity of 200. At this time, therefore, all three Sanatoria were again operating at full capacity, and it is believed that the arrangement, particularly at Mont Alto, is more adapted to the efficient and economical care of the patients than it has ever been before.



All out for the Race.

All classes of pulmonary tuberculosis are accepted for treatment in the Sanatoria. The structure of the institution makes it necessary, however, to limit the proportion of the various cases. Mont Alto has a capacity of 600 adults and 200 children, practically all the adult capacity being in camp and adapted only to ambulatory cases.



Sanatorium Kiddies.

Cresson has a capacity of 475 adults and 225 children, the adult capacity being about equally divided between hospital and camp.

Hamburg has a capacity of 450 adults, all beds being suitable for hospital treatment.

The buildings and property in the three institutions have all been properly maintained, and all necessary equipment has been purchased. The chief advancement in the treatment of patients during this period has been along the lines of artificial pneumothorax and heliotherapy. The results with artificial pneumothorax have been such that it is now considered a necessary factor in the treatment of pulmonary tuberculosis.

Heliotherapy was used first at the Cresson Sanatorium, particularly in the children's department. The physical effect secured by the exposure of the children's bodies to the direct sun rays has been so good that under no condition would it be discarded for the former methods of treatment.



Dressed for Sun Baths.

At the Mont Alto Sanatorium special attention has been given to the sun treatment of the adults suffering from pulmonary tuberculosis. The results have been excellent.



Heliotherapy (Sun Treatment).

BUREAU OF CHILD HEALTH

By

DR. J. BRUCE McCREARY, Director,
Bureau of Child Health.

An intensive campaign, looking to the permanent immunization of children of preschool age against Diphtheria, has resulted in:

1. The establishment of the practice of the procedure in our Child Health Centers throughout the State.
2. A general stimulation of the profession to the practice.
3. A stimulation to active organization in most of the more progressive boroughs and small cities of the State.
4. The State Department of Health has directly immunized 78,483 children under six years of age, also 48,871 children of school age.

The responsibility for medical school inspection in the Third Class Districts is placed on the local school authorities with supervision by the Secretary of Health.

The two years last past are the only years in which there has been direct supervision by the State Department of Health. One hundred percent of the Third Class Districts, during the two years, have had medical school inspection. The Secretary of Health has directly supervised this work through supervising inspectors appointed by him. Two full-time supervisors and five part-time supervisors are now accurately following up the inspections made by the local school authorities. For the first time in the history of the Department of Health, there has been a standardization of the medical school inspection in Second and Third Class Districts.

PRESCHOOL SECTION

By

DR. MARY RIGGS NOBLE, Chief,
Preschool Section.

The Staff consists of three full time physicians, three field workers and the required clerical force. To this personnel should be added 850 physicians doing the professional work in the Child Health and Prenatal Centers, as well as the part time services of approximately 125 field nurses who are under the direct control of the Nursing Section. A large and indispensable group of lay workers must also be included.

The Child Health Centers, during the past two years, have done more and better work. They are clearing houses for the apparently well children with undiscovered defects; and educate mothers needing fundamental knowledge in the care of growing babies. The number of such Centers has varied during the biennium from 380 to 480. On June 30, 1924, there were 178 under State control and 226 under other agencies, the latter in many instances closely co-operating with the Department.



Nutrition Class

Health Centers are variously housed in State Clinics, school buildings, mayors' offices, council chambers, community houses, fire engine houses, lodge rooms, clubs and occasionally in churches.

In 1923 there was a total attendance in all Centers of 251,519. In the first five months of 1924 attendance in all Centers totaled 98,649. Within the last year, ten Health Centers formerly depending upon the State have been taken over by their communities.

Three field workers constantly travel among the State and non-State Centers. These agents consolidate baby work, organize where needed, stimulate enthusiasm where lagging, and overcome the resistance sometimes arising where the purpose of infant and maternal welfare work is misunderstood.

The State controls 12 Prenatal Clinics in the smaller towns and cities. Of 68 such clinics not under State control many are using State literature and record forms, and report regularly. This service is for the expectant mother. The State nurses are doing field prenatal work, one hundred of whom are equipped with necessary scientific appliances.

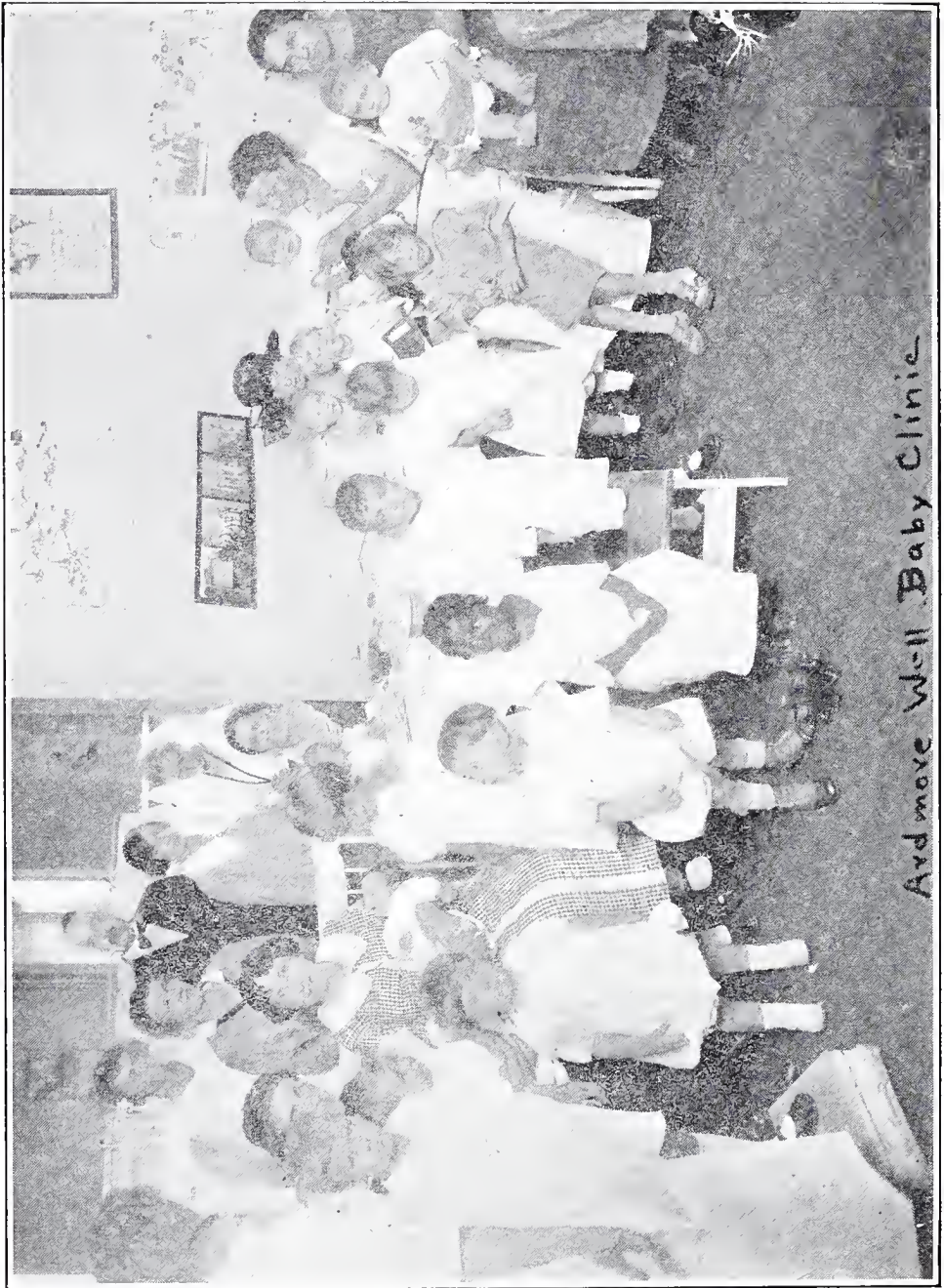
Several towns showing a high infant mortality rate have been approached from the infant and maternal welfare standpoints. The resources of the Department were offered to the communities in question, plans being jointly devised and carried out. The recognized methods to secure clean, flyless towns, pure milk, safe water, and communicable disease control, Child Health Centers actively operated, and Maternal Welfare Clinics, were adapted.—The key-stone of the whole being a Public Health Nursing Service. The State pays one half of such a nurse's salary though she is under the exclusive control of the community.

In the autumn of 1923 six conferences were held in different cities for the physicians conducting Child Health Centers for the purpose of more definitely outlining the plans and Section's policies and requirements. 187 doctors attended.

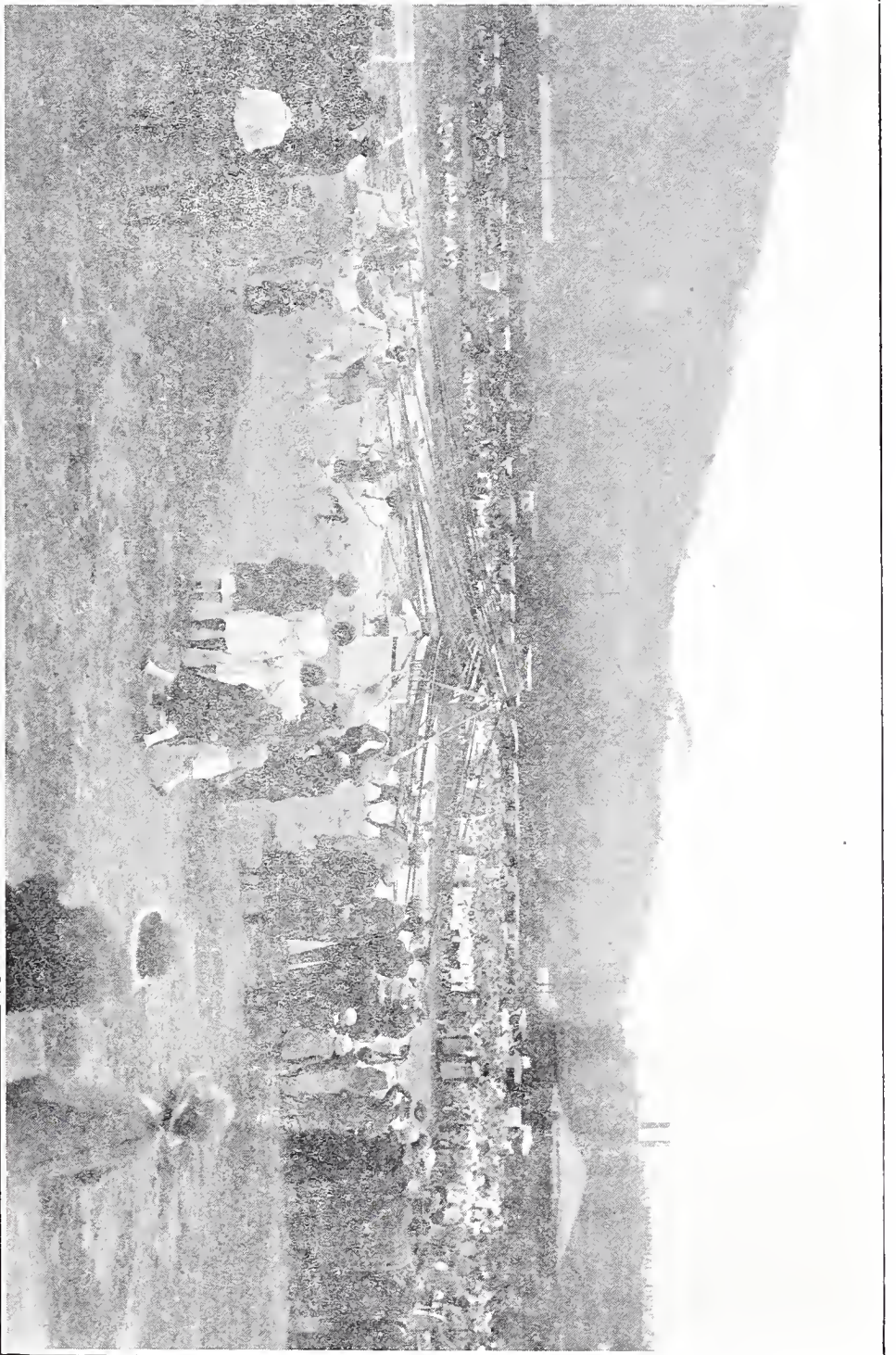
Statewide May Day Health celebrations were instigated in April 1924. Plans were made to make these festivals emphasize health.

The distribution of literature chiefly through the Health Centers was considered most important. 79,381 diet lists have been issued; 112,070 dodgers and 30,240 pamphlets—a stretch of 17 miles of information covering briefly all the essentials of baby culture.

The midwife work in four counties in the coal regions completes its first two years, exactly corresponding with this biennium. Successful efforts to stop the practicing of the unlicensed, the close supervision of the licensed under a full-time woman physician, and their instruction in elementary obstetrics have been achieved.



Ardmore Well-Baby Clinic



Child Health Day Demonstration

SCHOOL SECTION

By

JOHN G. ZIEGLER, Supervisor,
School Sanitation.

The personnel of the Section consists of the Supervisor of School Sanitation, one assistant Supervisor, one full time Supervising Medical Inspector, four part time District Supervising Medical Inspectors, and five hundred and forty part time local Medical Inspectors, in fourth class school districts.

In the first class school districts, (500,000 population and over), second class school districts, (30,000 to 500,000 population), and third class school districts, (5,000 to 30,000 population), a complete medical inspection of schools was made during the school year ending July 1, 1923. In the fourth class districts only one third of the schools were inspected, namely, 6,474 schools. The budget did not permit further work. For the school year ending July 1, 1924, 50% of the fourth class school districts in each County were listed for the inspection of first and second grade schools only. During this year, therefore, 5,672 schools were examined and 61,505 pupils advised of defects recommended for treatment. The reports show that seventy-six and seven tenths percent (76.7%) of the pupils examined in the fourth class districts were found defective, sixty-five and eight tenths percent (65.8%) in the third class districts and fifty-five and six tenths (55.6%) in the first and second class districts.

The last state-wide medical inspection of schools resulted in correction of 51% of physical defects in first class districts, 53% in second class districts, 19.7% in third class districts and 29.9% in fourth class districts. The value of follow up work by school nurses is shown by the foregoing figures—51% and 53% corrections in first and second class districts when a large number of nurses are employed and 19.9% in third class districts when few nurses have been engaged in school work. The larger number of corrections in fourth class districts is due to individual effort on the part of the rural school teacher and the work of our state nurses in certain localities.

An intensive inspection in the schools was attained. During the biennium five advance steps were taken to raise the standard of school medical inspection;—first, by dividing the State into ten Regional Conference Districts for the instruction of school medical inspectors before beginning their work; second, one full time medical supervisor and four part time medical supervisors were appointed to follow up the school medical inspection work in the 219 third class and 18 second class school districts; third, minimum standard for school medical inspection of schools in third class districts was issued by the Secretary of Health fixing requirements in advance of the service formerly rendered in the majority of the districts of this class. This standard marks the most forward step in school medical inspection taken to date; fourth, lectures were

given by the director of the Bureau to the Senior classes of the fourteen State Normal Schools covering the duties and responsibilities of a public school teacher relative to effective school health service; fifth, a campaign was conducted for universal vaccination for all children of school age throughout the Commonwealth by special examination. A follow up of all public, parochial and private schools, and academies, secured a compliance with the vaccination law in all these institutions.

DENTAL SECTION

By

DR. C. J. HOLLISTER, Chief,

Dental Section.

The personnel of the Dental Section consists of a Chief, Dental Hygienist and clerical assistance. The work is largely educational. Local communities throughout the State are influenced to place dental hygienists on their teaching staff.

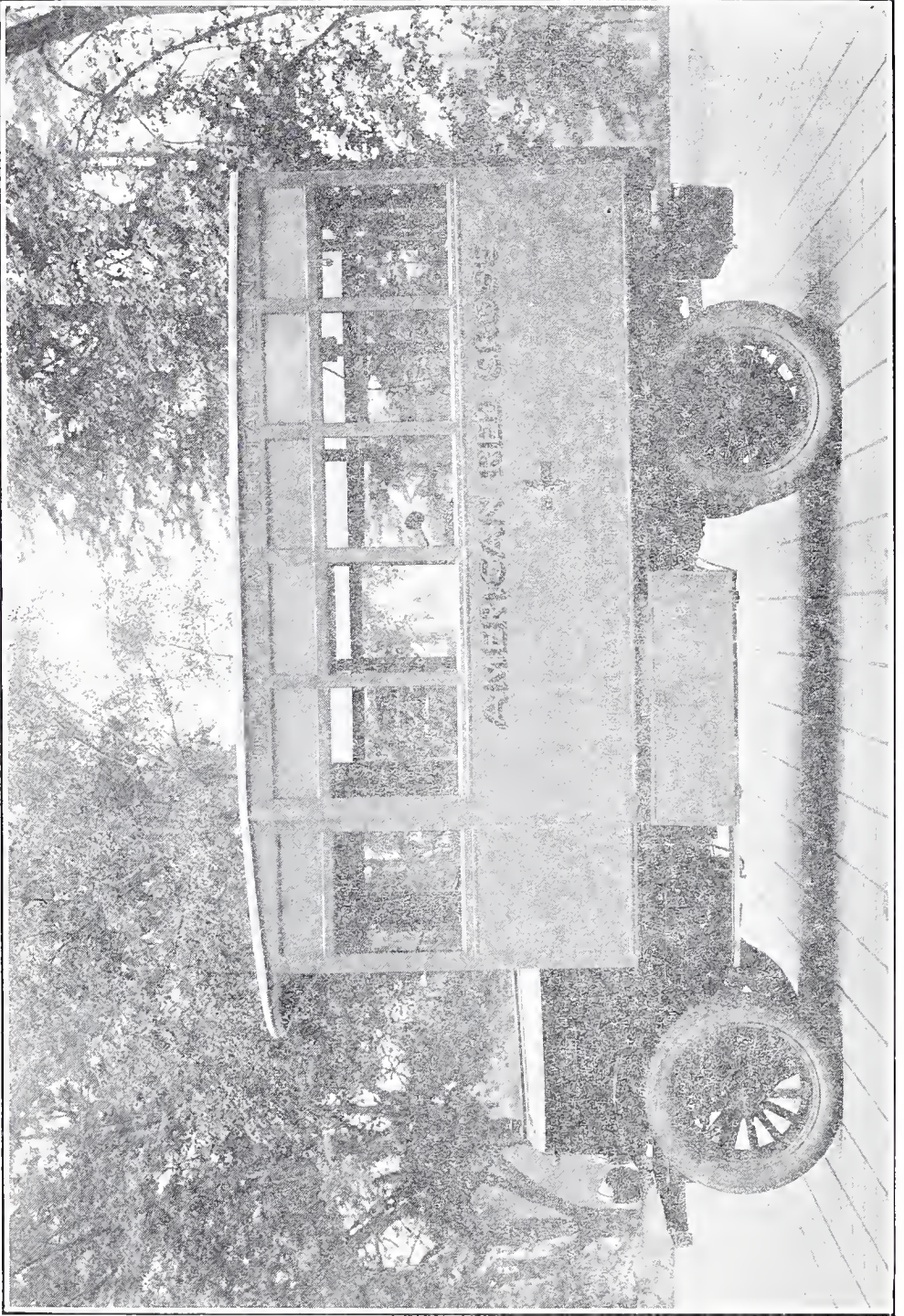
A Dental Hygienist is a trained worker who cleans teeth. She does not extract nor fill them. Diagnosis is also outside her field. She does, however, teach the fundamentals of both dental and general hygiene. Principles complimenting an already established nutrition service are also part of her activities.

The Dental Ambulance operated as a demonstrative unit in various districts of the State from June 1920 until January 31, 1923. It proved itself to be a practical and popular means of stimulating local communities toward the establishment of dental service.

The Chief of the Section, during the period of this report, has addressed 80,000 of the State's people. The Dental Hygienist has been used in demonstration work in 55 communities.

The number of Dental Hygienists serving the State's children has increased in the two year period exactly 100%, namely, from 35 in 25 communities to 75 in 50 different localities.

The Pennsylvania State Dental Society has actively cooperated with the Section and has rendered valuable assistance.



Dental Ambulance

BUREAU OF FINANCE

By

CLINTON T. WILLIAMS, Director,
Bureau of Finance.

CHARLES H. CLAPPIER, JR., Chief,
Section of Purchases.

ROY G. MILLER, Chief,
Section of Supplies and Biological Products.

During the last biennium a reorganization of the divisions of Accounting, Purchasing and Supplies was effected. The activities of these three divisions are so closely related that it was deemed advantageous to have them grouped under one executive; therefore, the Bureau of finance was created. The results of the consolidation have been a reduction of personnel, a consequent lessening of operating expenses and a more efficient handling of transactions.

ACCOUNTING SECTION

The Accounting Section of the Bureau is carrying out those provisions of the Administrative Code relating to budgets and is operating under a uniform system of bookkeeping now employed by all the Administrative Departments. A complete system of cost accounting for the tuberculosis sanatoria has also been installed, which enables accurate operating costs to be reached. This materially assists in the figuring of per capita expenditures and places State institutions on a comparable basis. This system also applies to automobiles and trucks, thus making possible exact mileage and operating costs.

PURCHASING SECTION

The Purchasing Section has complied with those provisions of the Administrative Code which require that certain purchases be made through the purchasing agent of the Department of Property and Supplies. In many instances, a decided decrease in the prices of commodities has resulted; and less time has been required to move supplies from their sources to the using-agencies.

This Section has cooperated with the Pennsylvania State Stewards' Association in the establishment of tentative standards and specifications. The quarterly meetings of the Association have been attended by the Bureau's personnel and information collected by this Section at their disposal.

SECTION OF SUPPLIES AND BIOLOGICAL PRODUCTS

One of the most gratifying features of the work of the past two years has been the greatly increased demand for Diphtheria and Tetanus Antitoxin.

It is more reasonable to assume that this large increase in distribution represents its more general use by physicians, and that the results of its widespread utilization are reflected in the lowered death rate from Diphtheria and Tetanus.

The various biologic products distributed during the two fiscal years dating June 1, 1922 to June 1, 1924 involved an expenditure of \$118,226.40.

The increase in the amounts of Schick Outfits and Diphtheria Toxin Antitoxin Mixture distributed was due to the widespread interest in Diphtheria prevention work, which has been stimulated throughout the State by means of the campaign carried on by the Department.

There were 148,629 laboratory outfits assembled and distributed free to the medical profession during 1922 and 1923.

County Medical Directors, Health Officers, Boards of Health, 119 Tuberculosis Clinics and 52 Genito-Urinary Clinics were supplied weekly on requisition with drugs, supplies and equipment.

BUREAU OF LABORATORIES

By

DR. JOHN L. LAIRD, Director,
Bureau of Laboratories.

The Bureau of Laboratories' routine work increased over the preceding period; the total number of tests for the year and a half being 103,355. Figured against the total Bureau appropriation, this represents a per capita test cost of 77 cents which is believed to be lower than any other State Laboratory.

The Bureau's routine service consists of tests of blood, spinal fluid and tissues for syphilis, tests of blood for anaemia and malaria, tests of sputum, blood, body fluids and tissues for tuberculosis, tests of excretions for bacteriologic and parasitic diseases, analysis of physiologic fluids, such as stomach contents, etc., cultures of the blood, wounds, and infections to determine the germ causing the condition, cultures to determine diphtheria and typhoid, analysis of water and milk to determine its fitness for use and its possibility as a source of disease, examination of smears for venereal disease, examination of tissues for pathologic conditions such as cancer, etc., and many other tests to determine the cause, the disease or its prevention and cure.

The Bureau has conducted many special investigations and researches. A field laboratory has been established for the purpose of examining all water supplies along the public highways to protect tourists and the people of the State.

The research work, although technical, has always carried a practical aim, as new methods of disinfection and disease control have been evolved. Many new laboratory methods and instruments have been discovered and invented, the latter being a paramount factor in permitting the bulk of work done in the laboratories by so small a staff.

BUREAU OF NURSING

By

MISS ALICE M. O'HALLORAN, Director,
Bureau of Nursing.

During the past two years the scope of activities of the Bureau of Nursing has been constantly widening, and the nurses are now engaged in a more comprehensive program of public health work than has ever been attempted in any State.

The nursing service now covers tuberculosis, prenatal, baby welfare, venereal disease control, child health and health officer work.

Included in the program is the continuation of the follow up of medical inspection in the fourth class school districts. This work has been carried on entirely by the State nurses in Susquehanna, Snyder, Bucks and Berks counties. Nutrition classes are being organized to overcome malnutrition in preschool and school children.

The campaign against diphtheria was begun in May 1923, since which time the nurses assisted in the administration of nearly forty thousand toxin antitoxin immunizations.

Thirty-seven nurses are acting as Health Officers in addition to their regular duties.

The health officer is the sanitary agent of the State Department of Health in second class townships, and visits the homes where communicable disease exists and gives instruction in the care of the sick and the prevention of the spread of infection.

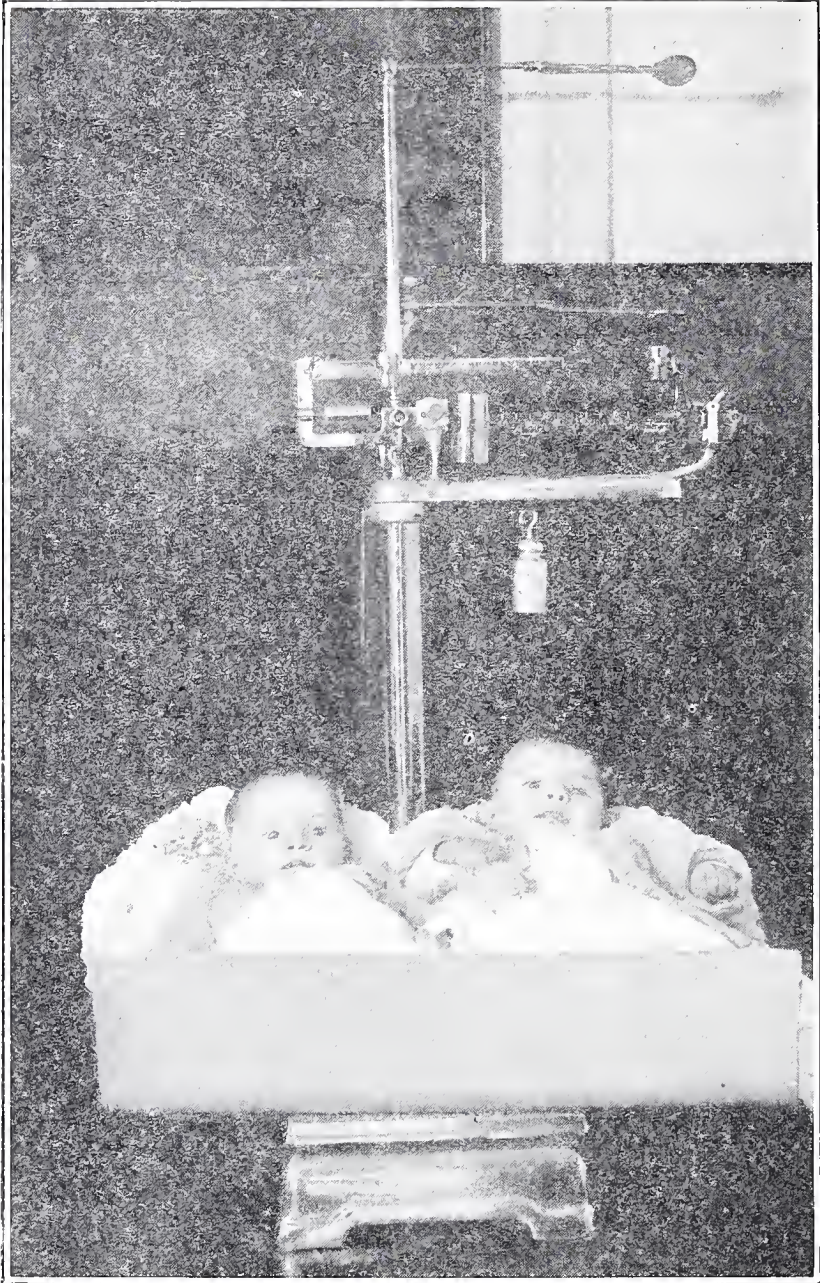
In the coal mining sections, where the foreign population employ the services of midwives, a special piece of work is carried on in the follow up of midwifery. The nurses visit the homes where midwives have been in attendance and see that the proper care is given the infants, also that the registration of the birth has been made, and urge attendance at "Well Baby Clinics."

Nurses frequently are required to travel a distance of seventy miles to make one visit, penetrating the rural districts.

The plan of yearly health examinations has also been fostered in State health centers. Regular periodic examinations are stressed, particularly in the case of children who have had measles, whooping cough or scarlet fever.

Efforts in the control and prevention of tuberculosis and the fight against venereal disease, both requiring clinic duty and home visiting, are carried on as before; also, the service in epidemics and disasters, supervision of health features at county fairs and publicity work have been continued as in the past.

In connection with tuberculosis work the State nurses made one hundred and eleven thousand, four hundred and fifty-one visits covering a period of two years.



Dauphin County Twins

During the month of June 1922, sixty State nurses were given a special course in Public Health Nursing and Social Service Work at the University of Pennsylvania. In February 1924 a convention of all State nurses was conducted in Philadelphia. Here the nurses were given an opportunity to hear lectures by well known workers and to bring their problems for solution.

At the close of the biennium there are in the employ of the State one hundred and twenty-nine staff nurses and four supervisors. During the two year period, over three hundred and forty-five thousand home visits were made by State nurses, as against two hundred and fifty-nine thousand visits in the previous biennium.

BUREAU OF PUBLIC HEALTH EDUCATION

By

DR. WILLIAM C. MILLER, Director,
Bureau of Public Health Education.

Routinely this Bureau distributes lantern slides, motion pictures and card exhibits to responsible persons on request. During the past eighteen months, the demand for this service has been greater than ever before.

Weekly Health Talks, prepared by outstanding Physicians of Pennsylvania and edited by the Bureau of Public Health Education, have been published in the Public Press.

The District Board of Health Associations, organized by this Bureau and still under its supervision, are for the most part flourishing.

An arrangement was made in the spring of 1923 and continued in 1924, by which the Department of Forests and Waters and the Bureau of Fire Protection of the State Police cooperated with the Pennsylvania Department of Health in a statewide spring clean up, which was the initial step in the State Fly Campaign annually conducted by this Bureau.

The campaign for annual health examinations was opened in June 1923, at a public meeting held in the Senate Caucus Room. Health examination blanks, endorsed by the Department, have been distributed to all County Medical Directors and a further supply may be had at a small cost by writing to The Atlantic Medical Journal Headquarters at Harrisburg. A large number of Societies and Clubs have approved the health examination campaign.

The annual Camp of Instruction was held at Mont Alto, June 23rd to June 30th, 1924. The student body of 250 was composed of County Medical Directors, Health Officers, Clinic Chiefs (including Tuberculosis, Genito-Urinary and Baby Welfare), Nurses and representatives of various organizations which cooperated with the Pennsylvania Department of Health in public health work.

The Camp of Instruction particularly stressed Tuberculosis and Child Health. Other phases of public health work were, however, considered. An excellent corps of instructors was secured. The teaching was clinical and oral.

The Listening Post, which is the Department's official publication, has developed during this period from a few mimeographed sheets to an eighteen page printed journal, which is issued monthly to a mailing list of 10,000 persons.

BUREAU OF DRUG CONTROL

By

JAMES N. LIGHTNER, Director,
Bureau of Drug Control.

The Bureau of Drug Control was established by the Act of May 24, 1917, P. L. 758, for the purpose of protecting the public health by regulating the possession, control, dealing in, giving away, delivery, dispensing, administering, prescribing and use of certain

drugs, and keeping records thereof; by regulating the use of drugs in the treatment of the drug habit; by providing for the revocation and suspension of licenses of physicians, dentists, veterinarians, pharmacists, druggists and registered nurses for certain causes, and providing for its enforcement and penalties.

The Bureau at the present time is administered by a chief, four inspectors and necessary office force.

The Pennsylvania Antinarcotic Act imposes secrecy upon the Bureau's personnel as regards much of its activities, hence a large part of the detail work may not be reported here. The most confidential relationship is maintained with a large number of professional people and their patients who take narcotics regularly, and persons in all classes of society who are habituated to narcotics either on account of age, disease or pure addiction. This confidential relation has resulted in many hundreds of adjustments to uphold the law in a humane spirit without legal procedure.

The Legislature during the session of 1923 repealed a portion of the Act of April 14, 1915, which provided for care and treatment of persons habitually addicted to the use of alcohol and drugs if indigent. Under that section the courts were authorized to commit inebriates to state or semi-state institutions. Since its repeal, however, this discretion has been removed from the court, and the consent of the superintendents of these institutions must first be obtained before commitment. Unfortunately such institutions are overcrowded and no space in them is now available.

Inspection work by the Bureau's inspectors was accomplished in practically every county of the state, and a vast amount of routine and unsensational work has been accomplished during the past two years. This activity contacts the Bureau with the professions involved and with conditions existing in the larger municipalities.

It is not the Bureau's aim to exercise its police functions except in extreme cases, therefore, arrests are only made when deemed positively necessary. Its principal functions are prevention and assistance to those unfortunates who have become addicted to drugs. During the period covered by this report, two hundred and sixty-six arrests for drug addiction and peddling were made, of which two hundred and forty-six were convicted. The arrests were all made by Bureau inspectors; this does not take into consideration the large amount of evidence collected and submitted to federal inspectors for their disposition and adjustment.

The physicians of the state have cordially accepted the administrative work of the Bureau; they realize that its aim is not to hinder but to aid them. By their cooperation they have materially assisted the Bureau in its work.

Addicts reported for the period covered by this report number one thousand four hundred and ninety-nine. Of this number fifty percent have cancer, forty-seven percent are diseased, incurables, aged persons and post-operative cases, and less than three percent

are pure addicts who, on account of their resources and inability to take institutional treatment, are treated by physicians. It must be understood that these are cases reported by physicians and duly followed and investigated, and it does not estimate the total number of addicts in the state inasmuch as a number of addicts purchase illicitly from peddlers.

Institutional care and treatment are the only methods by which permanent cures are accomplished. The financial condition of many addicts makes such care and treatment impossible. Some provision must be made whereby indigent addicts can obtain such treatment at county or state expense.

During the past two years there has been a very distinct fall in the amount of addiction reported from the rural districts largely owing to the Bureau compelling certain physicians who were at least technically violating the law to conform to its requirements.

The Bureau wishes to record its appreciation of cooperation given it by the United States Internal Revenue Service and Department of Justice, more especially the officers connected with this Service on duty in Pennsylvania. This Bureau has assisted the federal officials in every way possible by securing for them evidence in cases brought under federal law.

The Bureau also wishes to express its thanks to the county courts of the State for their cooperation and assistance in bringing to justice many peddlers of narcotics who have come before them for sentence. In practically every instance where sufficient evidence was produced the courts have imposed substantial sentences. It is only in this way that these offenders are impressed with the purposes of this anti-narcotic law.

THE SANITARY WATER BOARD

This Board, consisting of five Heads of State Departments with the Secretary of Health as Chairman, was created by the Administrative Code for the purpose of administering anti-stream pollution laws and making investigations of ways and means to prevent pollution of the waters of the State.

The fundamental policy of the Sanitary Water Board is contained in a resolution for classifying the waters of the State, dividing them into three groups, to wit: streams which are unpolluted or uncontaminated from any artificial sources are designated as Class A, and it is the policy of the Board to not only maintain these clean streams in that condition but to extend the limits of their cleanliness by abatement of first sources of pollution where practicable.

The next group includes most of the streams of the State which are more or less polluted and where the required degree of treatment of polluting matter will be determined by the present and probable future use and condition of the stream, the practicability of remedial measures and the economics in each particular case.

The third group, and it is hoped that these will be few in number, are streams draining intense industrially developed areas receiving so much industrial wastes that it would not now appear to be practicable or economical to attempt their restoration to a cleanly condition.

Agents of the Board have made surveys in seven of the sixty-seven counties to determine Class A streams and so far the Board has designated 3,450 miles of such clean streams and this work will be carried on in other parts of the State as funds are available.

The Board is securing the construction of intercepting sewers and sewage treatment works in many cases by cooperating with the municipal authorities and agreeing to a financial program for the progressive construction of such works within the financial ability of the municipality.

The principle of cooperation has likewise been applied to industry and as a result the leather tanners of Pennsylvania have made an agreement with the Board whereby the industry is providing a fund of \$35,000 to conduct thorough investigations on the disposal and treatment of tannery wastes which is believed to be a pioneer work of this kind.

The problem of conserving the quality of water flowing into streams of Pennsylvania is a tremendous one and is being approached in a broad, comprehensive fashion.

ANATOMICAL BOARD

The object of this Board is to administer the Anatomical Act under the Statutes of the State, which in substance signifies that the unclaimed dead are used to instruct students in the schools of medicine and dentistry, in order that the living may be benefited and in order to do this the Statute requires that notice of the possession of an unclaimed body shall be immediately sent to the Secretary's office.

Should, however, a claimant appear after the body has been sent to this board, it is immediately returned on the payment of the expenses incurred.

The Anatomical Board uses no State monies and the funds at its disposal are obtained from the colleges in its membership.

Unclaimed whole bodies are embalmed as soon as received and kept for thirty days and can in that time be returned to the relatives or friends.

It is understood that an unclaimed body is one which the relative refuses or is unable to bury, or one for whom there appears no claimant at the end of twenty-four hours.

These bodies are therefore the property of the Anatomical Board and must not be mutilated either by incision for embalming or autopsy, without the consent of the Board through its Secretary.

COMMUNICABLE DISEASES IN PENNSYLVANIA JANUARY, 1925

By .

Dr. WILMER R. BATT, Director,
Bureau of Vital Statistics.

A total of 13,612 cases of communicable diseases was reported for the month of January, a decrease of 261 as compared with the preceding month. Urban cases increased 380 while rural cases decreased 641, representing an increase of 3% in the former districts, as compared with December, and a decrease of 18% in the latter sections of the State.

The principal decreases, compared with December, are as follows:

Chickenpox	1,038
Diphtheria	231
Typhoid fever	69

Increases shown by this comparison are:

Measles	439
Mumps	384
Pneumonia	90
Scarlet fever	57
Whooping cough	41
Smallpox	21

Diphtheria occurred in fifty-four counties. The decrease of 231 was shared between urban with 171 more cases and rural with an excess of 60. The State rate for this disease was 10.39 per 100,000 of population, the urban rate 12.56, and the rural rate 5.03.

Typhoid fever was reported from twenty-four counties. Urban cases contributed 57 to the total decrease of 69 and rural cases 12. The State rate was 1.02 per 100,000 of population, the urban rate 1.18, and the rural rate 0.63.

Scarlet fever was reported from sixty-one counties. Urban cases increased 120 while rural decreased 63, a net increase of 57 for the State. The rate per 100,000 for the State as a whole was 29.09, the urban rate was 31.56 and the rural rate was 22.97.

Twenty-seven cases of Smallpox were reported from the following centers:

URBAN		RURAL	
<i>Locality</i>	<i>County</i>	<i>County</i>	
Braddock	Allegheny	Armstrong	1
Erie	Erie	Fayette	1
Sharon	Mercer	Venango	1
Philadelphia	Philadelphia		
Donora	Washington		1

Fourteen cases of Encephalitis lethargica were reported from the following centers:

URBAN		RURAL	
<i>Locality</i>	<i>County</i>	<i>County</i>	
Pittsburgh	Allegheny	Susquehanna	1
Hazleton	Luzerne	Warren	1
Philadelphia	Philadelphia		10

Four cases of Anterior poliomyelitis were reported, all urban, as follows:

URBAN		
<i>Locality</i>	<i>County</i>	
Pittsburgh	Allegheny	1
Erie	Erie	1
Franklin	Venango	2

All Communicable Diseases reported for January 1925 by Urban and Rural Districts showing a comparison with the corresponding month of the preceding year:

	<i>Total</i>		<i>Urban</i>		<i>Rural</i>	
	<i>Jan. 1925</i>	<i>Jan. 1924</i>	<i>Jan. 1925</i>	<i>Jan. 1924</i>	<i>Jan. 1925</i>	<i>Jan. 1924</i>
All diseases	13,612	15,120	10,743	11,721	2,869	3,399
Anterior poliomyelitis	4	4	4	0	0	4
Anthrax	2	0	2	0	0	0
Cerebrospinal meningitis	6	10	6	9	0	1
Chickenpox	2,542	3,935	1,883	3,058	659	877
Diphtheria	961	1,712	827	1,425	134	287
Erysipelas	92	88	80	77	12	11
German measles	217	157	182	135	35	22
Leprosy	1	0	1	0	0	0
Measles	2,356	2,366	1,858	1,508	498	858
Mumps	2,302	1,810	1,659	1,518	643	292
Pneumonia	562	714	537	680	25	34
Puerperal fever	5	12	5	12	0	0
Scarlet fever	2,630	2,210	2,078	1,600	612	610
Smallpox	27	18	24	17	3	1
Tetanus	1	6	1	6	0	0
Trachoma	5	1	5	1	0	0
Trichiniasis	0	5	0	5	0	0
Tuberculosis	479	509	464	483	15	26
Typhoid fever	95	105	78	65	17	40
Whooping cough	1,161	1,325	947	995	214	330
Impetigo	45	63	45	60	0	3
Scabies	37	63	37	60	0	3
Ophthalmia	7	4	7	4	0	0
Syphilis	1	0	1	0	0	0
Encephalitis	14	3	12	3	2	0

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Deputy Secretary of Health
W. G. Turnbull, M. D.

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Copies of this publication will be sent free each month to any person upon application to the Secretary of Health, Harrisburg, Pennsylvania.



The Health Gnome Says —

At this, my last appearance here
I make my bow and disappear;
But I have feelings, same as you,
And find it hard to say, "Adieu".
So readers of the Listening Post,
I give you this, a parting toast:

*May the years of your lives be abundant
And your ills infrequent and few;
May the joys of your lives be redundant---
Is the wish of the Health Gnome for you.*



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Editor

William C. Miller, M. D.

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EDITORIAL

In the field of composition there are two especially hard things to do. One is to write the obituary of a near and dear friend, the other, which I never knew about until this moment, is to attempt to express in words, the feelings which arise at the prospect of the early severance of relations of long standing and associations which have ever been congenial, for by the time this number goes to press, my resignation which has been in the hands of the Secretary of Health for some time will have been accepted and I will be a private citizen, looking from the side line, but always with sympathetic interest, at the forward movements of the Pennsylvania Health Department in behalf of public good.

I shall watch with especial solicitude the Listening Post, which during the term of my editorial administration grew from a single sheet multigraph copy sent to two hundred and fifty to its present form and size with a monthly issue of twenty thousand. And I shall ask of those, through whose help this progress was possible, to extend a like aid to my successor.

My first acquaintance with the Pennsylvania Department of Health was when, as a member of the Senate of Pennsylvania, I advocated the passage of the Bill creating it. During my more than fourteen years' service as a member of the Staff, I have officially visited not only every county, but almost every town in Pennsylvania and have had the opportunity to personally observe the splendid health work, effected at no little personal sacrifice by public spirited men and women, who with expectation of no other compensation than the satisfaction derived from the performance of duty have cooperated with the State Department in the furtherance of its plans.

I have seen this powerful team of State and Citizenry cut in two the death rate of Tuberculosis, hammer down the once high column of Typhoid fever, banish the terrors of Diphtheria and increase the chance of life for infants, and these collectively

are but a part and not the major part of the truly great things which have been accomplished during the administration of the three successive Department heads upon whose staff I have served.

Such service as I have rendered in my own niche has been freely given, not only from a sense of duty, but because of my personal, whole-hearted interest in a labor that I love. Therefore, when I say to you, my Chief and you, my associates in the Department, and you, my friends and co-workers outside the Department, that I leave this work and you with regret, you will understand, I am sure, it is but a terse way of expressing my inability to set down on paper the conflicting thoughts which command me to go, yet urge me to stay.

With best wishes for the continued advancement of the Pennsylvania Health Department and continued co-operation of its army of co-laborers, I am

Wm. C. Miller, M. D.

THE HOUSE FLY

By

DR. WILLIAM C. MILLER, Director,
Bureau of Public Health Education.

Fly time is with us again. The time of course has to come, but as for the flies—that is different. They come because we allow them to. Did you ever take a “close up” look at a fly through a magnifying glass? Try it some time. He has a proboscis or trunk something like an elephant. Through this he sucks his food, for he has no teeth; his diet is naturally confined to liquids or to materials which will enter into a state of solution when mixed with liquid. He carries his own conveniences and has abominable table manners. For instance, when attracted to a particularly nice looking lump of sugar in the bowl, he settles down, unlimbers his trunk, places the open end of it on the sugar and starts in to convert it into syrup; a very simple matter for him—a little contraction on the muscles of his crop and out pours its contents. Some of the sugar melts and back it goes into his crop; he doesn’t get it all back, but what’s the difference? You don’t appear to mind and he can easily fill up with liquid at the pig sty or garbage can, or some other such place where he got his former supply.

He has hairs on his legs and body, even on his wings and most of the time, he carries a full cargo of germs, very often disease germs. These are so small that your magnifying glass will not help you, but if you have access to a high power microscope and know how to use it and what to look for, you will find them readily enough.

He always has dirty feet and no wonder, for the sticky pads which enable him to walk upside down are constantly picking up things. Besides his carrying disease, especially to babies, he is not at all a desirable addition to any household and particularly the dining room and kitchen. To be sure it is difficult to keep from

having flies, if your neighbor insists upon maintaining a hatchery. If you could somehow get this article into your neighbor's hand, perhaps he would be more careful.

So much has been said and written about flies that it seems like wasted energy to say that flies breed in filth and that if there be no filth, there will be no flies, but it is just as true today as it ever was and perhaps there is no harm in repeating it. The manure heap of the horse stables is the Eden of the house fly; however, other excrementitious or decaying material provides a fair substitute and under half-way favorable conditions, they increase with marvelous rapidity.

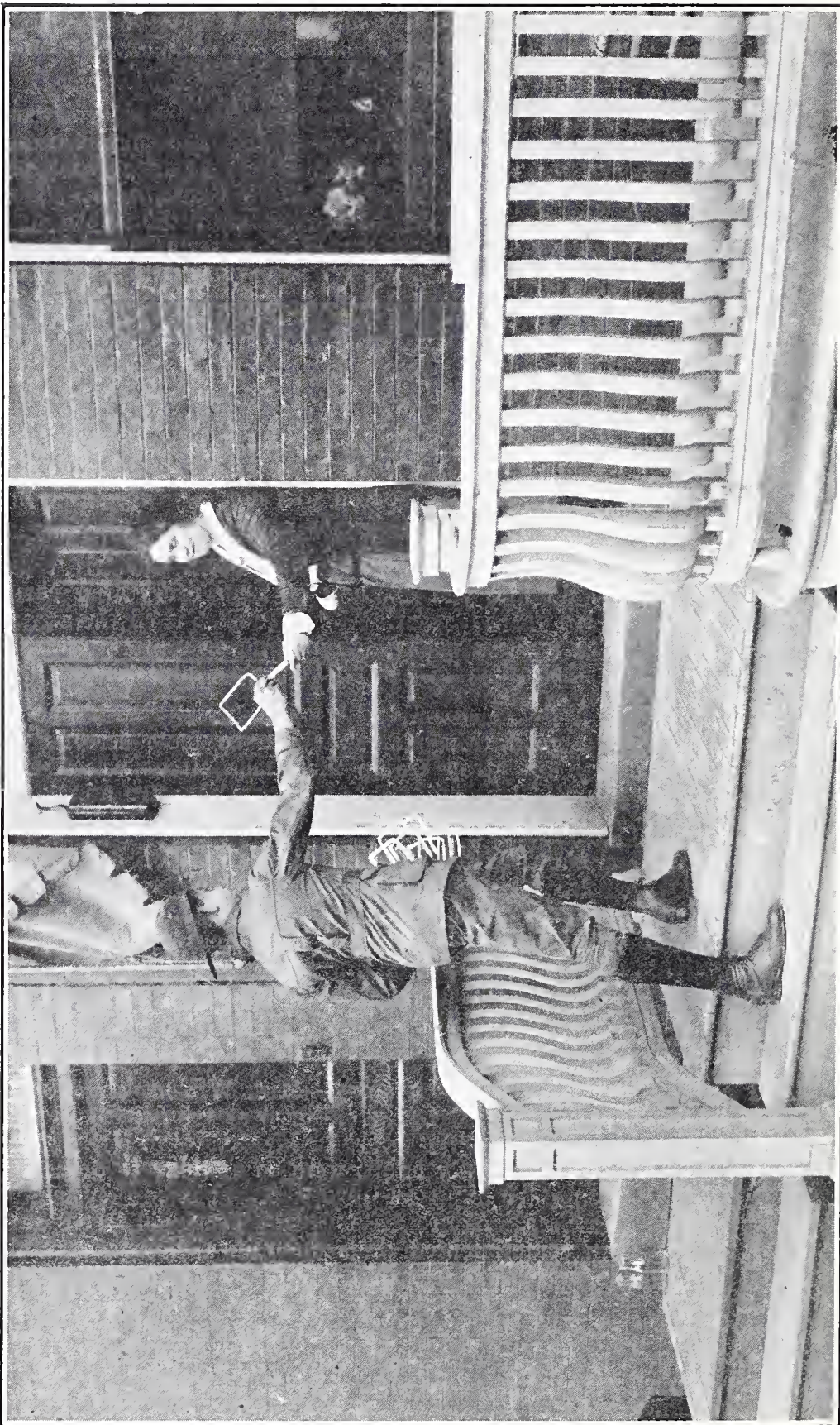
Birth control propaganda finds no favor in fly society, it is no unusual thing for madame fly to deposit from a hundred to a hundred and fifty eggs all ready for hatching and repeat the procedure two weeks later. But it must not be forgotten that, if she cannot find a suitable place (and she will if there be one), she will be forced to leave them to chance, when, if they hatch at all, the larva with nothing to feed on will die.

Now if your neighbor on your right side and your neighbor on your left side and all the people up and down the street on both sides were to do like you do, and go over everything carefully to see that there are no hatching places about, keep their garbage can clean with a tight fitting lid and never allow any filth to accumulate in the alley, all would be well and their flies wouldn't bother you at all.

Of course it is a good thing for everyone to have screens in the summer to keep out stray tramp flies, mosquitoes which are alike unnecessary and all other kinds of bugs which are annoying and unpleasant.

The illustration shows a Boy Scout in the act of delivering fly swatters which are furnished free by local, public spirited business organizations. Fly swatters are not only useful to destroy adult flies, but they serve as a constant reminder of the fly pest and danger, and as this method of getting them for free distribution appears to be practical, it has been used rather extensively in this and other states. Last year the Boy Scouts of Pennsylvania delivered about a million fly swatters in this manner.

And apropos of this there is a story.—Mrs. Wilson, an elderly lady who was highly popular with the children of the neighborhood, was confined to her room with a severe headache. Two little girls who came in, as was their daily habit, were so anxious to do something for her that, in order to please them, she told them they might make her a cup of tea. After the tea had been delivered and drunk, Mrs. Wilson complimented them upon its deliciousness and added, "And there was not a leaf in it; how did you manage it?" "We strained it through the fly swatter", said the older of the girls. "What!" exclaimed Mrs. Wilson in horror, "Did you use my fly swatter?" "Oh!" said the younger, "We didn't use your new one, we took the old one." All of which goes to show that, while the older generation and larger children may be perfectly



Boy Scout Delivering Fly Swatter

well informed on fly nature, fly habits and fly danger, it is never quite safe to stop talking about these things, because there are millions coming on who have yet to be taught.

The State Department of Health has a supply of special literature on the House Fly which may be had upon application. It goes into detail as to the origin, life and habits of the fly, together with various methods of fly eradication; likewise colored lantern slides accompanied with a typewritten lecture and motion pictures depicting fly life and fly danger will be furnished free to responsible persons upon application.

PENNSYLVANIA PUBLIC HEALTH ASSOCIATION ORGANIZED

In view of the need of a stimulus to general interest in public health problems in Pennsylvania, Dr. Charles H. Miner, Secretary of Health, called a Conference of representatives of various organizations interested in public health at his office on February 7th of this year. After a prolonged general discussion, it was unanimously decided to organize a Public Health Association with constitutional provisions which would permit affiliation with the American Public Health Association.

A Committee on Constitution was appointed which submitted the following draft which was approved and adopted:

1. NAME

This organization shall be known as the Pennsylvania Public Health Association.

2. OBJECT

The object of this Association shall be to protect and promote public and personal health in Pennsylvania.

3. MEMBERSHIP

There shall be four classes of members:

1. Active members. All persons engaged in any branch of public health work in the State of Pennsylvania shall be eligible to membership.
2. Associate members. All persons in Pennsylvania, who are not eligible to active membership but who are sufficiently interested in the cause of public health to desire affiliation with this Association, shall be eligible to associate membership, which membership shall entitle them to all privileges of the Association except voting and holding office in the Association.
3. Honorary members. Honorary membership may be conferred on any person, whether or not a resident of Pennsylvania, who has rendered such service to the cause of public health as to entitle him to special recognition. Not over two honorary members shall be elected in any year.
4. Any Board of Health or other corporate health organization may become a member of the society with the privilege of sending a delegate to the annual meeting. Eligibility of any organization applying for membership shall be determined by the executive committee. The annual dues of a corporate member shall be not less than Five (\$5.00) Dollars.

4. OFFICERS

The officers of the Association shall be a President, two Vice Presidents, a Secretary-Treasurer and an Assistant Secretary-Treasurer.

President and Vice Presidents: The duties of the President and the two Vice Presidents shall be those commonly understood as connected with these positions. These officers shall be elected for one year.

Secretary-Treasurer shall hold office for a term of two years and shall not vacate office the same year as the Assistant Secretary-Treasurer. He shall act as Secretary of the Association and of the Executive Committee, and as Chairman of the Committee on Membership; he shall keep a list of all members of the Association, with the dates of their election; he shall send bills to all members who have not paid their dues at the last annual meeting; he shall conduct such part of the correspondence of the Association as is annually conducted by the Secretary of similar organizations; he shall have charge of the funds of the Association and shall be bonded, at the expense of the Association, in such sum as is satisfactory to the Executive Committee. The funds of the Association shall be disbursed by him, but all orders on said funds shall be countersigned by the President. He shall furnish to the Association, at each annual meeting, and at such other times as called on by the Executive Committee, a financial statement of all receipts and disbursements since the last annual meeting and this statement, together with all books, vouchers and other necessary documents, shall be referred to an Auditing Committee of three, appointed by the President.

Assistant Secretary-Treasurer shall be the custodian of all papers presented at any annual meeting. He shall act as Secretary-Treasurer in the absence of the Secretary-Treasurer at any meeting, and during any disability of the Secretary-Treasurer between annual meetings.

5. *TERMS OF OFFICE*

The terms of all officers elected at any annual meeting shall begin at the close of the meeting at which they are elected.

6. *EXECUTIVE COMMITTEE*

The Executive Committee shall consist of (a) the officers of the Association, (b) the ex-Presidents of the Association for the two preceding years, (c) and five (5) active members of the Association who are not officers of the Society.

The President shall be chairman of the Executive Committee and the President elect shall become a member of the Executive Committee immediately on election.

All motions and resolutions presented at any annual meeting of the Association, and involving matters of policy, administration or business, shall be referred to the Executive Committee, which shall consider the same and report its recommendation back to the Association.

The Executive Committee shall have full powers of the Association in all matters demanding action between meetings of the Association, and shall submit at the next succeeding meeting a report of all actions taken by them under authority of this section.

7. *QUORUM*

A quorum of any meeting of the Association shall consist of not less than fifteen active members, two of whom at least shall be officials of the Association.

8. *AMENDMENTS*

This constitution may be amended by a two-thirds vote of the active members present at any annual meeting, provided the notice of the proposed amendment has been given in writing to the Secretary and transmitted by him to active members thirty days before the annual meeting, and that notice of the time at which said amendment is to be voted on has been announced at least twelve hours in advance.

BY-LAWS

1. *MEETINGS*

There shall be at least one meeting each year held at the time and place to be selected by the Executive Committee.

2. *THE MEMBERSHIP FEE* for members shall be one dollar (\$1.00) per annum, payable in advance. Honorary members shall not be required to pay a membership fee.

3. There shall be a Committee on membership, consisting of the Secretary-Treasurer as Chairman, and two other members appointed by the President.

4. The President shall appoint an Auditing Committee of three to examine and audit the books of the Secretary-Treasurer at each annual meeting.
5. Applications for membership in the Association shall be made out on forms provided for that purpose, and applicants for membership shall be endorsed by at least two members of the Association in good standing. The applicant shall state whether he desires to be immediately elected a member, in the manner hereinafter provided for, or whether he desires to be elected at the next succeeding annual meeting.

All applications received for membership shall be referred to the Committee on Membership, who shall elect or reject the same.

Applications received in the interim between annual meetings shall be referred to the Secretary-Treasurer, who shall at once forward the names and all information received relative to applicants, to the Membership Committee. Applicants receiving the endorsement of a majority of the members of the Membership Committee shall on payment of their dues become members of the Association.

Any applicant, failing of election in the manner just provided for, shall have the privilege of withdrawing his application, or having it acted on by the Association at its next annual meeting.

The fee of any members elected in the interim between annual meetings shall entitle him to membership in the Association for one year following the next annual meeting.

6. PUBLICATIONS

All publications of the Association shall be issued under the direction of the Executive Committee.

The Executive Committee shall act as trustee for the properties of the Association.

7. These By-Laws may be amended by a two-thirds vote of the members present at any annual meeting, provided that notice of the proposed amendment has been given thirty days preceding the annual meeting, or on a previous day of the same meeting.

The following officers were then elected: Dr. Charles H. Miner, President; Dr. Wilmer Krusen and Dr. C. J. Vaux, Vice Presidents; Dr. Wm. C. Miller, Secretary-Treasurer and Dr. J. J. Raunick, Asst. Secretary-Treasurer. Executive Committee: Mr. R. H. Lansburgh, Dr. B. K. Wilbur, Dr. H. C. Frontz, Dr. W. C. Davidson and Miss Alice O'Halloran. Membership Committee: Dr. Wm. C. Miller, Dr. J. Frank Small and Dr. F. L. VanSickle.

At a later meeting of the Executive Committee, it was decided to hold the first annual meeting at the State Sanatorium at Mont Alto. Arrangements have been made with the State Arsenal for tents and equipment to take care of visiting delegates. The meetings will be held in the large entertainment hall at the Sanatorium.

The Conference will open June 22nd at 8 A. M. and close June 24th at noon. The program will be varied and there will be opportunities for free discussion of all public health subjects.

W. C. M.

DISTRICT HEALTH ASSOCIATIONS

Something over five years ago, the State of Pennsylvania was organized into nine District Associations of Boards of Health for the purpose of establishing a closer co-operation between the State Department of Health and City, Borough and First Class Township Boards and to enable the Boards themselves to compare their

individual problems and to discuss ways and means for improvement.

The reports of the State Department of Health indicate that the meetings of these Associations have been productive of a vast amount of good. However, because of the long distances which some Boards were required to travel to the place of meeting, and because there was no provision for payment of their expenses, the attendance was not always so large as the importance of the occasion warranted.

Washington County, upon the initiative of Dr. W. D. Martin, organized a County Health Association which meets quarterly and has now been in existence for over a year. The meetings have always been well attended and have resulted, not only in improvement of Boards of Health of that County, but in increased general interest in public health work.

A little later Dr. F. E. Coughlin, District Medical Director, organized County Health Associations in the Counties of Butler, Venango and Crawford. A similar interest has been manifested in these Counties and like results are apparent. Now that the Act, mentioned elsewhere in this issue, permitting Boards of Health to pay the expenses of members to such meetings, is in effect, it should not be difficult for every County in Pennsylvania to organize a County Board of Health Association.

It will be noted by the Constitution, which is identical in the four Counties organized, that these Associations, built upon Boards of Health which are the organized health authorities of municipalities, permit the membership of all persons or organizations interested in the promotion of public health.

CONSTITUTION OF COUNTY HEALTH ASSOCIATIONS. PREAMBLE

We, the Representatives of the municipal health authorities of County, in order to establish closer relations and promote a uniform system of administration of State Health Laws and Regulations of the Advisory Board of the Department of Health, do hereby ordain and establish the following constitution.

ARTICLE 1. NAME

The name of this organization is County Public Health Association.

ARTICLE 2. MEMBERSHIP

All members of Boards of Health and City Health Departments including the Secretaries and Health Officers of County, by virtue of their offices, shall be members of this Association. Persons, not officially connected with Boards of Health, may become members of this Association, with full privileges on the payment of an annual fee of fifty cents.

ARTICLE 3. EXECUTIVE COUNCIL

The Executive Council of this Association shall consist of four members and the President, first and second Vice Presidents and Secretary-Treasurer.

Section 2. The Executive Council shall regulate the policies of the Association.

Section 3. The President and Secretary-Treasurer of the Association shall be the President and Secretary of the Executive Council.

ARTICLE 4. OFFICERS

The officers of the Association shall be President, two Vice Presidents and Secretary-Treasurer.

ARTICLE 5. MEETINGS

The meetings of the Association shall be held quarterly on the third Tuesday of the months of January, April, July and October of each and every year. The place of meeting to be decided upon by vote of the Association.

ARTICLE 6. FUNDS

Section 1. Each Board of Health and City Board of Health Department within the County shall annually pay, to the Treasurer of the Association, the fee of \$2.00.

Section 2. Boards of Health, which have become delinquent in payment of dues, shall not be entitled to vote.

ARTICLE 7. AMENDMENTS

Proposals for amendments or alterations of this Constitution may be submitted and acted upon at any regular meeting of the Association.

BY-LAWS

Chapter 1. Section 1. All members may attend and participate in the proceedings of the general meeting of the Association.

Chapter 2. Section 1. The sessions of the Executive Council shall be held 10 days prior to the Regular Meeting.

Section 2. Five members shall constitute a quorum in the Executive Council.

Chapter 3. Section 1. *ELECTION OF OFFICERS.* All elections shall be by ballot and a majority of votes cast shall be necessary to elect.

Section 2. All officers of the Association shall be elected for the term of one year. The annual election shall be held on the third Tuesday of July of each year.

Section 3. *INSTALLATION OF OFFICERS.* All officers shall assume their duties at the close of the session of the annual meeting at which they are elected.

Chapter 4. *DUTIES OF OFFICERS.*

Section 1. The President shall preside at all meetings of the Association and at the meetings of the Executive Council. He shall be ex-officio, a member of all standing or special committees.

Section 2. The Vice President shall assist the President in the performance of his duties, during his absence or at his request, the ranking Vice President shall officiate in his place.

Section 3. The Secretary-Treasurer shall take charge of property and record of the Association, keep the minutes of the meetings, attend to the correspondence and perform such other functions as devolve upon secretaries of similar organizations. The Secretary-Treasurer shall receive an annual salary of \$25.00.

Section 4. The Secretary-Treasurer shall receive all moneys due the Association and pay out the same upon order from the President properly signed, keep an account of all funds of the Association and render a statement of its finances at each regular meeting.

Chapter 5. *COMMITTEES.*

Section 1. The standing committees of this Association shall be as follows: The appointments to be made annually by a nominating committee appointed by the president.

1. A Committee on Public Policy and Legislation.
2. A Committee on Standardization of Health Ordinances.
3. A Committee on Supplies.
4. A Committee on Program.
5. A Committee on Nominations.

Section 2. The Committee on Public Policy and Legislation shall consist of five members and the President and Secretary-Treasurer. This committee shall repre-

sent the Association in its communications with the State Department of Health in reference to policies and shall exert its efforts with the General Assembly to promote such legislation as may be recommended by the Association.

Section 3. The Committee on Standardization of Health Ordinances shall consist of five members and the President and Secretary-Treasurer shall co-operate with the State Health Department, exerting its efforts in behalf of the adoption of standard health ordinances by all municipalities within the County.

Section 4. The Committee on Program shall consist of three members and President and Secretary-Treasurer. This Committee shall have charge of the arrangement of the program for the sessions of the Associations.

Section 5. The Committee on Supplies shall consist of three members and the President and Secretary-Treasurer. This Committee shall have charge of the printing and distribution of the stock of supplies for all local Boards of Health of the County.

Section 6. The Committee on Nominations shall consist of three members. This committee shall have charge of nominations for all the officers and standing committees of the Association.

Chapter 6. *AMENDMENTS.*

These by-laws may be amended by the Executive Council at any regular session of the Association.

It is the hope of the State Department that every county in Pennsylvania will proceed, as early as possible, to organize a County Health Association and take steps to become officially affiliated with the State Public Health Association. The Department will co-operate by sending representatives who will outline in detail the plans and aid in the organization. This when carried out will be a long step forward in public health progress.

W. C. M.

WHAT TO DO IN CASE OF DROWNING

By

DR. C. F. ENGEL,

Assistant Medical Director,

W. E. & M. Co., East Pittsburgh, Pa.

As the time for outdoor bathing approaches it behooves us all to acquire some knowledge of what to do for those persons who are apparently dead from drowning. The method of restoring life to these persons is also applied to those who are overcome by electrical shock or poisonous gas.

Many persons meet death from these causes every year when a few simple measures would have saved their lives. The victims are seldom killed outright and only need to have their breathing restored artificially.

The Prone Pressure Method of resuscitation is exceedingly simple, easily and quickly learned and involves the services of but one person and no mechanical apparatus.

The diaphragm, which is the keynote to this prone pressure method, is an arched muscular partition which divides the body into two compartments. Its convexity is upwards and forms the base of the thoracic cavity and the roof of the abdominal cavity. The thoracic cavity contains the heart and lungs, and the abdominal

cavity, the stomach, intestines, liver, spleen, etc. This diaphragm rises and falls like a piston in an engine. When the diaphragm rises, the air in the lungs is forced out and we call this Expiration. When the diaphragm falls the air rushes in through the nose and mouth and fills the lungs and is called Inspiration. The lungs are just two air sacks in the thoracic cavity.

METHOD

Start treatment immediately, and as near the scene of the accident as possible.

Lay victim on stomach, face to one side—arms over head.

Now kneel, straddling victim, well below the waist, facing toward head.

Place your hands on victim's sides, just above the hips and touching lowest ribs.

With arms straight, swing forward slowly, bring your weight to bear upon the victim, gradually and heavily but not violently, for about three seconds.

Then swing back to original position, releasing your weight.

Repeat operation about twelve times a minute or at rate you breathe.

All you do in these instructions is to force air out of the lungs, when you exert pressure, and when you release pressure, the air flows back itself.

The victim will usually show signs of returning life within a half hour, but, if not, continue as long as two hours.

Do not move him until he is breathing normally without assistance; then use a stretcher, keeping him warm and in bed for several hours.

While this artificial respiration is being carried on an assistant may hold a cloth saturated with aromatic spirits of ammonia to victim's nose. Collar and shirt should be loosened. A physician should be summoned immediately. Do not attempt to give any liquids by mouth. Pain should be inflicted by pulling the hair, slapping soles of feet, etc.

Begin artificial respiration immediately. Each second lessens the patient's chances of recovery. Unless there is some very good reason, the patient should not be moved. If it is necessary to move the patient some firm stretcher should be used so that prone pressure can be performed on the way.

As soon as normal breathing has been established, place the patient on a stretcher, cover with blankets and carry him to bed.

HAY-FEVER

By

DR. EDGAR T. SHIELDS,

Chief, Section of Tuberculosis Clinics.

Hay-fever time, with its host of tearful, red-nosed, sneezing and generally uncomfortable victims, will soon be here! Even now some of the chronic sufferers are being annoyed by its distressing symptoms,—for hay-fever appears at three definite periods during the year; in the spring, in early summer, and in the late summer and fall.

This condition is caused by over-sensitiveness of the body-tissues in certain persons to the pollens of some kind of trees, grasses, weeds, or flowers. When such persons come in close contact with these pollens by which they are affected, they react with violent and repeated fits of sneezing, sometimes coughing; redness and swelling of the lining of the nose; profuse watery discharges from both nose and eyes; and often with headaches and marked general discomfort.

A false hay-fever, with symptoms quite similar to those found in the real, sometimes follows the eating of some particular kind of food-stuffs; it may also occur in persons who have diseases or irritations of the nasal tract.

The true hay-fever, however, is always produced by pollens. These generally get into the circulation through the inhaling of pollen dust present in the atmosphere, although this affection has been produced in patients who drank milk from cows that had eaten ragweed.

Many persons subject to hay-fever seem to lack a normal amount of physical energy and nervous tone, while in others are found disorders or defects of the nasal passages.

Whenever pollen dust (the specific cause of this disease) is present in sufficient quantities in the air we breathe, chronic nasal affections and a lowered vitality seem greatly to favor the development of hay-fever in susceptible persons.

Spring hay-fever, appearing in April and May, is caused by the pollens from the blossoming maple, willow, birch and oak trees. Early summer hay-fever, during May, June and July, follows the flowering season of the grasses, roses, dandelions, daisies, etc. A "Rose cold" is one form of the early summer variety of hay-fever. The late summer hay-fever begins in July or August and continues until October or until frost appears. By far the worst offenders at this time are the different members of the ragweed family, although sage-brush, golden-rod and other autumn flowers may be held responsible for some of the cases appearing in the late summer.

An accurate knowledge of just what particular pollen is the exciting cause of the trouble is most important and this can generally be found out through skin tests. Solutions of the various

pollens are used and applied to the arm by a method similar to vaccination. Those pollens that produce hay-fever in certain persons, when inhaled, will also produce when injected into the skin of these same individuals a raised, red and swollen patch, similar in appearance to a mosquito bite. Sometimes a single pollen alone will give a positive skin reaction in a patient; but sometimes a person will be over-sensitive to a number of different kinds. These diagnostic tests to be of the greatest value as a guide to treatment should be made before and not during the acute attacks of hay-fever.

Many hay-fever sufferers complain of feeling "all stuffed up" and increasingly uncomfortable as the sun sets and night comes on. The reason for this may be found in the fact that it is the light, wind-borne pollen and not the heavier, insect-borne kind that causes most of the hay-fever trouble; during the daytime these invisible clouds of pollen dust float high in the air, but as the sun sets, the air chills, the moisture in it condenses and being heavier than the warm, dry air, it quickly settles. Large quantities of this pollen are carried down with the heavy, cool, moist air, so that the layers of the atmosphere nearest the ground contain the largest amount of this dust, so irritating to this class of patients.

Much hay-fever can be prevented by desensitizing susceptible persons by means of an early and thorough course of injections with solutions of the offending material. Ten or fifteen injections a few days apart and at least eight weeks before the expected onset of the trouble will in itself create an immunity in many persons. To insure the least number of failures by this method, it should be combined with a general toning up of the digestive and nervous systems, with the correction of nose and throat defects, and with any other medication or treatment found to be necessary. Between one and two hundred pollen solutions are now available for making the skin tests and giving preventive injections.

If a patient determines to escape this seasonal affliction, two ways are open to him; namely, to take the skin tests and follow them up with a full course of injections for prevention. If for any reason he is unable to do this, then the other practical plan for him to follow is to find a locality and elevation where there is an absence of the pollen that is the cause of his trouble and live there during the hay-fever season.

A number of different localities in the United States enjoy the reputation of both preventing and curing hay-fever. While in some cases the relief and freedom from symptoms experienced by certain health seekers at these places are most gratifying, yet for others similarly afflicted the climatic treatment seems to fail completely. No one place or method of treatment can be recommended as a "cure-all", and reputable physicians are not willing to advise their individual patients as to the best course to follow until after they have had a good physical examination to find out their general condition, and, in addition, the skin tests to determine the particular pollen to which they are sensitive.

Amelioration of hay-fever is to an extent a public health problem, but until the weed pests (particularly the ragweeds) are eradicated, there will no doubt continue to be a large crop of sufferers from this malady.

BABIES AND SUMMER

By

DR. JOHN D. DONNELLY,

Chief, Field Service Section.

High humidity and improper feeding during the summer months cause vomiting and diarrhoea among infants. The summer heat is hard on babies. It weakens them and makes them more susceptible to attacks of indigestion. Over-feeding, a milk mixture that is too strong, sour milk, dirty milk and uncleansed nipples, any one of these or combinations of these are likely to cause vomiting or diarrhoea or both in hot weather.

THE BREAST FED BABY

The food necessary to supply everything that is needed for the baby's growth and development is produced best in the breast of its mother. It is the natural food of babies, the **ONLY** one made just for them. For a baby, breast feeding is the best form of life insurance. Nurse the baby at regular intervals, every three or four hours, as your physician advises. If the baby be asleep when the feeding hour arrives, wake him up and nurse him. He will soon learn when to expect his feeding and will be more likely to sleep and remain quiet between feedings, especially if he be changed and left alone in his crib until his next feeding. After the fourth month the night feeding may be omitted. When not directed otherwise, it is well to alternate the breasts at each feeding to insure the baby's emptying the breasts several times during the day. Partial emptying is one cause of milk "drying up." If possible, breast feeding should be continued until the eighth month.

On warm days the intervals between feedings of breast and bottle fed babies should be lengthened and the nursing time **reduced** a fourth, with an ounce or two of plain boiled water given between feedings.

WEANING

The summer time is not the time for weaning. Breast fed babies who will be about six months or older in June should be weaned before July; younger babies can be usually tided over the perilous summer months on the breast. A safe rule is, that if there be any well founded doubt as to a mother's ability to nurse her baby successfully through the summer months, the baby should be weaned during June. Seek your physician's advice as to weaning and follow his instructions. Notify him promptly of any vomiting or change in the baby's stools, so that he can immediately prevent further disturbances.

THE BOTTLE FED BABY

When breast feeding is impossible, diluted cow's milk is usually the next best food. The feeding of a bottle fed baby should be always under the direction of a physician who will prescribe the exact proportions of milk, water and sugar, the number of feedings, their interval and the amount to be taken. The feeding of a baby is an individual problem. What may be successful with one baby may cause indigestion or fail to nourish another baby. Trying to follow the family and neighbor's advice may kill your baby. Never use patent foods unless ordered especially by your physician, in which case, he will give you full directions for use.

All milk must be fresh, sweet, clean and come bottled from a clean dairy—and from a tuberculin tested herd. (Tuberculin tested herds are those whose cows are free from tuberculosis. In some districts tuberculosis is wide spread among cattle. The germs of this disease may be carried to your baby in the milk. Pasteurizing or boiling will kill these germs). Milk from herds, other than tuberculin tested ones, should be brought to boil slowly in a clean sauce pan, stirring all the time (this will prevent the formation of a scum on top), cooled and placed on ice. To keep milk safe, it must be kept cold on ice or well protected in a clean spring house. Bottles, nipples and all utensils used in preparing feedings must be washed and dried after using and kept clean under cover. Always have hands clean when preparing the baby's food. Keep flies and mosquitoes away from the baby; never let them touch anything that goes in the baby's mouth nor any utensil that is used in preparing his feedings.

When curds appear in the stools or when movements become loose, call your physician. Save a soiled diaper so that he can see the type of stool. Prompt regulation of feeding by the physician will usually prevent further trouble. When vomiting or watery, greenish, slimy stools occur, stop all food. Send for your physician immediately. In the meantime, give the baby nothing but plain boiled water, in the same amount and at the same intervals as the feeding.

GENERAL HYGIENE

To insure health and growth proper feeding must be augmented by plenty of fresh air, sunshine, rest and sleep. In the summer clothing should be light, an undershirt or vest, diaper and dress should be sufficient. If evenings are cool, socks and a light sweater may be added. On hot days, keep the baby in the shade, preferably in a spot where there is a gentle breeze. All a baby needs is a diaper during sweltering days. The daily bath and a cool sponge late in the day will prove refreshing. Free use of talcum powder will prevent chafing. Orange juice should be given daily, particularly to bottle fed babies. Begin with a half teaspoonful of orange juice diluted with an equal amount of boiled water. This can be increased up to the juice of half an orange by the fifth month. Avoid the use of sugar by using sweet oranges.

Prepare the baby for the ordeals of the summer by having him examined thoroughly. If he has progressed and developed as he should, it is a great satisfaction to know it. If anything be wrong, an examination will reveal the truth concerning the baby's condition. The time to prevent trouble is at the first sign of anything unusual. Any physical defects found at this time can be corrected readily, thus adding to the baby's comfort and health.

PERIODIC HEALTH EXAMINATIONS

By

DR. WILLIAM C. MILLER,

Director, Bureau of Public Health Education.

Fifty years ago the Life Insurance Agent spent the greater part of his time in attempting to convince prospects that his proposition was worth-while. Today every one recognizes the value of life insurance and the problem which confronts the Company Representative is as to the quantity which the individual may be able to carry.—So much for a long and persistent educational campaign in behalf of a sound proposition.

Two years ago the Pennsylvania Department of Health began its efforts for periodic health examinations, which is a form of life assurance that should have a universal appeal, for it does not promise a certain stipulated sum to be paid your estate at the time of your death, but offers a reasonable opportunity for the actual extension of your life beyond the years of average expectancy.

If you were to have your foot crushed to a pulp in the jaws of a powerful press, the surgeon would say: "However well I might dress this member, blood poisoning would ensue and the chances of your recovery would be not one in a million, for the bones are crushed, the muscles hopelessly damaged and the circulation destroyed." So he would take off your foot and you would go on living for many years to come. You would submit to the operation, because it is something you can see for yourself, and you would realize that immediate attention was necessary.

There are other things which may happen to you—not the result of accident—which you cannot see and which present no early manifestations, that are realized by you. The heart, the kidneys, the lungs and the liver, these important organs which are all the time working for you, each have their limitations. Sometimes one or more become weakened from over taxation and there follows a general systemic disturbance; fortunately the degeneration of any of these organs is usually so gradual that it takes a long time before it reaches a state, that it may be said to be beyond repair.

Therefore the sensible thing to do is to take an early inventory; find out, through an examination by your physician, just how you stand. If he should tell you today that you are sound in all your organs, you may depend upon it that you will be reasonably safe from developing any degenerative disease to the extent that it cannot be arrested for the period of one year. Then have another

health examination. Each year many thousands of persons die of Bright's disease, Cancer, Heart disease, Diabetes, Cirrhosis of the Liver and Tuberculosis, because they did not find out the trouble in time.

We have adopted the slogan 70+ and have placed this symbol on the cover envelope of the Listening Post to remind our readers that 70 years is not the limit of human life, but that it is within the scope of every individual to extend the period to 70+; the plus stands for additional years of health, strength and the enjoyment of life.

Now what have you done about it? You have probably said to yourself, "Yes, that is a good idea, I will have a Health Examination—when it is convenient." But there appear to be so many things to interfere. If it were a note in bank, you would attend to it promptly; if it were taxes, you would pay them; if it were a pressing duty, you would not neglect it; but this is something else—it concerns only yourself and it may wait; in addition you don't feel there is anything the matter with you, if there should be, perhaps you are a little afraid to find out about it. Don't forget, if you have a break down in any organ and do find out about it, it may be repaired, but if it be not discovered until too late, your life will inevitably be shortened.

There is also another aspect of your case, if you have dependents you do not do your whole duty to them, when you protect them by Life Insurance; it is their due that you should afford them the still further protection of your living presence for as many years as are humanly possible.

Therefore the right and proper thing to do for yourself and your family (not forgetting that you have certain indefinable obligations to humanity in general) is to delay no longer, but have a health examination today. You can help the campaign by placing the symbol 70+ on the back of your envelopes, so that those who understand will be reminded and those who do not know its meaning will become curious and inquire.

COMMUNICABLE DISEASES IN PENNSYLVANIA, FEBRUARY, 1925

By

DR. WILMER K. BATT,

Director, Bureau of Vital Statistics.

A total of 14,793 cases of communicable diseases was reported for the month of February, an increase of 1,181 as compared with the preceding month. Urban cases increased 356 and rural cases increased 825, a rate of increase of 3% in the former districts and 28% in the latter.

By comparison with January the following principal increases are shown:

Measles	839
Mumps	550
Scarlet fever	188
German measles	152
Tuberculosis	57

Decreases shown by this comparison are:

Chickenpox	343
Whooping cough	182
Diphtheria	31
Typhoid fever	25

Only three counties of the State were free from Scarlet fever. An increase of 188 cases was shared between urban districts with an excess of 69 and rural districts with an excess of 119. The State rate for this disease was 31.12 per 100,000 of population, urban rate 32.61 and rural rate 27.43.

Diphtheria occurred in fifty-five counties. Urban cases decreased 79 while rural cases increased 48, a decrease of 31 for the State as a whole. The State rate was 10.05 per 100,000 of population, the urban rate 11.36 and the rural rate 6.83.

Typhoid fever was reported from twenty-three counties. Urban cases decreased 35 while rural increased 10, a net decrease of 25 cases. For the State the rate was 0.74 per 100,000 of population, the urban rate was 0.63 and the rural rate was 1.01.

Twenty-five cases of Smallpox were reported, as follows:

URBAN		
<i>Locality</i>	<i>County</i>	<i>Cases</i>
Erie	Erie	3
Philadelphia	Philadelphia	10
Washington	Washington	1
RURAL		
Fayette	Fayette	4
Venango	Venango	7

There were three cases of Encephalitis reported for the month, as follows:

URBAN		
<i>Locality</i>	<i>County</i>	<i>Cases</i>
Erie	Erie	1
Philadelphia	Philadelphia	2

Two cases of Anterior poliomyelitis were reported from the following centers:

URBAN		
<i>Locality</i>	<i>County</i>	<i>Cases</i>
Connellsville	Fayette	1
Bethlehem	Northampton	1

All Communicable Diseases reported for February 1925 by Urban and Rural Districts showing a Comparison with the Corresponding Month of the Preceding Year.

	<i>Total</i>		<i>Urban</i>		<i>Rural</i>	
	<i>Feb.</i> <i>1925</i>	<i>Feb.</i> <i>1924</i>	<i>Feb.</i> <i>1925</i>	<i>Feb.</i> <i>1924</i>	<i>Feb.</i> <i>1925</i>	<i>Feb.</i> <i>1924</i>
All diseases	14,793	15,707	11,099	11,596	3,694	4,111
Anterior poliomyelitis	2	1	2	1	0	0
Anthrax	0	1	0	1	0	0
Cerebrospinal meningitis .	7	10	6	10	1	0
Chickenpox	2,199	3,389	1,513	2,549	686	840
Diphtheria	930	1,449	748	1,143	182	306

	<i>Total</i>		<i>Urban</i>		<i>Rural</i>	
	<i>Feb.</i> <i>1925</i>	<i>Feb.</i> <i>1924</i>	<i>Feb.</i> <i>1925</i>	<i>Feb.</i> <i>1924</i>	<i>Feb.</i> <i>1925</i>	<i>Feb.</i> <i>1924</i>
Epidemic dysentery	1	0	0	0	1	0
Erysipelas	92	114	76	87	16	27
German measles	369	193	255	132	114	61
Malarial fever	1	0	0	0	1	0
Measles	3,195	2,981	2,628	1,998	567	983
Mumps	2,852	2,504	1,826	1,865	1,026	639
Pneumonia (true)	563	653	544	620	19	33
Puerperal fever	3	3	3	3	0	0
Scarlet fever	2,878	2,298	2,147	1,544	731	754
Smallpox	25	11	14	8	11	3
Tetanus	0	2	0	2	0	0
Trachoma	0	6	0	6	0	0
Tuberculosis	536	464	511	441	25	23
Typhoid fever	70	127	43	83	27	44
Whooping cough	979	1,411	696	1,016	283	395
Impetigo	40	52	39	51	1	1
Scabies	46	26	43	26	3	0
Ophthalmia	2	6	2	5	0	1
Encephalitis	3	6	3	5	0	1

COMMUNICABLE DISEASES IN PENNSYLVANIA MARCH, 1925

By

DR. WILMER R. BATT,

Director, Bureau of Vital Statistics.

There was a total of 18,269 cases of communicable diseases reported for the entire State for the month of March, 14,126 of which were urban and 4,143 rural. By comparison with February an increase of 3,476 is noted in the total, urban districts having 3,027 more cases and rural districts an excess of 449. The urban rate of increase was 27% and the rural 12%.

The principal increases were as follows:

Measles	2,329
Mumps	424
German measles	405
Whooping cough	218
Scarlet fever	209
Pneumonia	75
Diphtheria	68
Typhoid fever	18

The following decreases are also noted:

Chickenpox	263
Erysipelas	21

But four counties of the State were free from Scarlet fever in March. The total increase of 209 was shared between urban with 119 more cases and rural with an excess of 90. The State rate was 33.38, the urban rate 34.42 and the rural rate 30.81.

Fourteen counties reported no Diphtheria cases. In urban districts there was an increase of 76 while in rural districts there was a decrease of 8 cases, an increase of 68 for the State. The rate for the entire State was 10.79, the urban rate 12.51 and the rural rate 6.53.

Although nearly half the counties were without a single case of Typhoid fever, there was an increase of 18 cases in the total

number reported for the State as a whole. While urban cases showed a decrease of 2, rural cases increased 20. The State rate was 0.95, the urban rate 0.62 and the rural rate 1.76.

Thirty cases of Smallpox were reported from the following localities:

URBAN		
<i>Locality</i>	<i>County</i>	<i>Cases</i>
Beaver Falls	Beaver	1
New Brighton	Beaver	1
Erie	Erie	2
Philadelphia	Philadelphia	25
RURAL		
Montgomery	.....	1

Seven cases of Encephalitis occurred in the following localities:

URBAN		
<i>Locality</i>	<i>County</i>	<i>Cases</i>
Philadelphia	Philadelphia	6
Canonsburg	Washington	1

There was no Anterior poliomyelitis reported for the month.

All Communicable Diseases reported for March 1925 by Urban and Rural Districts showing a Comparison with the Corresponding Month of the Preceding Year.

	<i>Total</i>		<i>Urban</i>		<i>Rural</i>	
	<i>Mar. 1925</i>	<i>Mar. 1924</i>	<i>Mar. 1925</i>	<i>Mar. 1924</i>	<i>Mar. 1925</i>	<i>Mar. 1924</i>
All diseases	18,269	18,042	14,126	13,985	4,143	4,057
Cerebrospinal meningitis ..	6	8	4	6	2	2
Chickenpox	1,936	3,216	1,398	2,561	538	655
Diphtheria	998	1,280	824	1,031	174	249
Erysipelas	71	171	55	147	16	24
German measles	774	777	540	704	234	73
Malarial fever	2	0	0	0	2	0
Measles	5,524	3,695	4,706	2,640	818	1,055
Mumps	3,276	3,450	2,157	2,658	1,119	792
Pellagra	1	0	1	0	0	0
Pneumonia (true)	638	838	617	821	21	17
Puerperal fever	6	11	6	10	0	1
Scarlet fever	3,087	2,154	2,266	1,476	821	678
Smallpox	30	19	29	18	1	1
Tetanus	2	1	2	1	0	0
Trachoma	6	2	6	2	0	0
Trichiniasis	0	1	0	1	0	0
Tuberculosis	526	546	494	506	32	40
Typhoid fever	88	74	41	50	47	24
Whooping cough	1,197	1,663	885	1,226	312	437
Impetigo	39	61	36	58	3	3
Scabies	44	58	42	53	2	5
Ophthalmia	11	11	10	11	1	0
Encephalitis	7	6	7	5	0	1

DEPARTMENT NOTES

THE LATEST CANCER "CURE"

The time has long since passed when patent medicines were sold over the druggists' counters for the cure of cancer. The promoter of the proprietary nostrum today claims that the merit in the treatment which he proposes depends quite as much upon the skill of the one who administers it as in the thing administered. This

theory is the basis of many remarkable discoveries which, from time to time, are announced in the daily papers.

An example of one of the most remarkable frauds which have come to public notice is the story of a woman in Michigan who recently claimed to be able to cure cancer, and whose methods have now led her into serious legal difficulties.

According to information contained in recent numbers of the Journal of the American Medical Association and Hygeia, a Mr. Lewis, of Macon, Michigan, had an illness which was diagnosed by several physicians as cancer of the liver. Mrs. Patrovitch, who had some local reputation, was called upon to treat the case. She estimated that it would cost \$54.00 to effect a cure, but when it was found impossible to raise so much money by the family, the treatment was begun with a capital of \$26.00.

The money was handed to the healer who, temporarily placed the sum on the abdomen of the farmer and began to massage him. With fingers anointed in lard, she traced geometric designs on his body. At the end of the first treatment, the healer took the money away, and it seems not to have entered into the operations subsequently.

At a later date, the woman returned with herb medicine which, apparently, consisted of boiled hay. At a still later period, the man's legs and feet were covered with burdock leaves, a piece of knotted string was placed about his waist, and poultices made of farmyard manure were applied to him. At the end of a month, the man died.

After the death, the family sought out the woman, who sent a bottle of black ointment with instruction that it be applied to the corpse. It was used as directed. The family soon called for the undertaker.

On January 29, a warrant was issued for Mrs. Patrovitch's arrest on the charge of practicing medicine without a license.

—American Society for the Control of Cancer, Inc.

The Pennsylvania State Dental Hygienists' Association met in convention at Reading, Penna., May 5th & 6th, and presented Dr. C. J. Hollister, Chief, Dental Hygiene Section, with a beautiful gold watch as a mark of esteem and in appreciation of his services to the cause of dental hygiene.

Follow-up Report from Bee May.

New Brighton, Penna.,
May 14, 1923.

Miss Alice M. O'Halloran,
Chief, Bureau of Nursing,
State Department of Health,
Harrisburg, Pennsylvania.

My dear Miss O'Halloran:

I am still working hard on the family of Serbians about whom I wrote you in December. The mother is much improved, mentally and physically. She is very anxious to learn to do the things we want her to do.

The lice are all cleaned up; the three year old child has a skin eruption and the baby has one sore on her face, which is under treatment.

During the month of March the baby contracted a heavy cold, followed by bronchitis, resulting in the loss of three pounds in weight. As soon as she was able, the mother brought her back to the Clinic. When weighed last Wednesday, we found she was within one pound of normal.

I had a place in the Children's Hospital, Pittsburgh, reserved for this baby. I felt a few weeks of good wholesome living with a good formula would do worlds for her, but the parents positively refused to part with her.

The warm weather, flies, no ice for the milk and other drawbacks considered, make things look bad for the baby, so all we can do is watch and wait and hope for the best.

The baby's name is Milka Mezmar, and she is now eight months old.

Very truly,

Bee May.

Following is the text of two Acts of the last Legislature which will have material bearing upon the advancement of Public Health Service in Pennsylvania:

No. 21

AN ACT

Authorizing counties to engage in health work and to appropriate monies for such purposes.

County Commissioners may appropriate money for protection of health, etc.

Section 1. Be it enacted, &c., That the Board of County Commissioners may provide and appropriate from any monies in the county treasury not otherwise appropriated, annually, such sum or sums as they deem necessary for the protection of the health, cleanliness, convenience, comfort and safety of the people of the county; and said Board of County Commissioners, upon their appropriating money for health work as provided for herein, shall cooperate with the State Department of Health and boroughs and first-class townships within their respective counties, in the promotion of health work.

They shall co-operate with the State Department of Health.

Section 2. In case any health officers are appointed under section one of this act, such appointees shall be approved by the State Department of Health, and such appointees shall have the same powers and duties as are now prescribed for the same officers in boroughs and first-class townships.

Approval of appointees by State Department of Health.

APPROVED—The 17th day of March, A. D. 1925.

GIFFORD PINCHOT.

The foregoing is a true and correct copy of the Act of the General Assembly No. 21.

CLYDE L. KING,

Secretary of the Commonwealth.

No. 148

AN ACT

Authorizing local boards of health of cities of the third class, boroughs, and first-class townships of the Commonwealth to organize county health associations; providing for the representation of such county associations in a State Association to be formed by representatives from such county health associations; and providing for the payment of the expenses of county and State associations.

Section 1. Be it enacted, &c., That the several local boards of health of cities of the third class, boroughs, and first-class townships of the Commonwealth now or hereafter incorporated are hereby authorized and empowered to organize county health associations for the purpose of holding meetings at such times and places within the county as such county association may designate, for the purpose of advancing the various health interests of said third-class cities, boroughs, and first-class townships, promote remedial legislation; and discuss any and all topics relating to the health and conduct of their respective municipalities; and providing for the enforcement and economical method of administering health legislation.

Public health.

County health associations.

Section 2. Cities of the third-class boroughs, and first-class townships' boards of health may by resolution designate one delegate to attend such meetings of the county health association. The said boards of health of the several counties joining said county health association shall pay as dues to such county health association a sum not exceeding five dollars (\$5.00) per annum. The actual expenses of such delegate attending meetings of said county health association, including traveling expenses and hotel bills actually paid, shall be paid by the various boards of health of the said third-class cities, boroughs, and first-class townships, by orders drawn upon their respective treasuries.

Designation of delegates.

Dues.

Expenses of delegates.

Section 3. Each county health association is hereby authorized to elect one delegate to attend the annual meeting of the Pennsylvania Public Health Association to be held at such time and place within the Commonwealth as said Pennsylvania Public Health Association may designate.

Delegate to meeting of State association.

The actual expenses of such delegate attending the meeting of the Pennsylvania Public Health Association, including traveling expenses and hotel bills actually paid, shall, upon approval of such bill, be paid by the several county health associations.

Expenses of delegate.

APPROVED—The 10th day of April, A. D. 1925.

GIFFORD PINCHOT.

The foregoing is a true and correct copy of the Act of the General Assembly No. 148.

CLYDE L. KING,
Secretary of the Commonwealth.

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Deputy Secretary of Health
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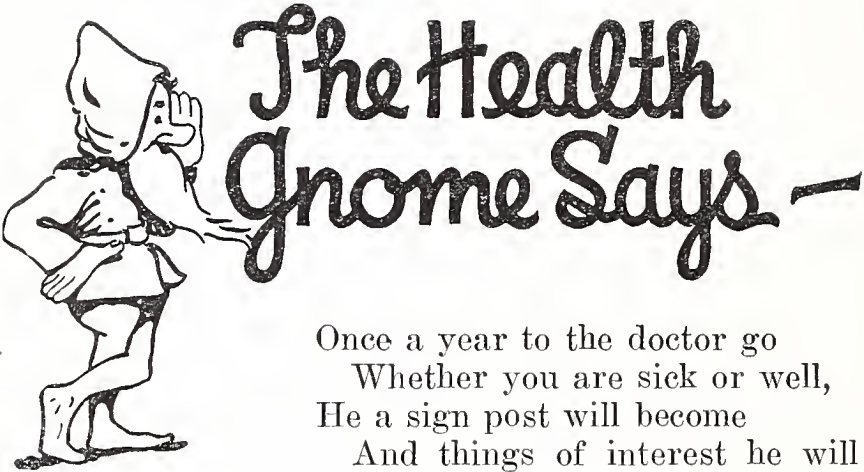


ISSUED MONTHLY

By The Pennsylvania Department of Health

VOL. III. JULY, AUGUST and SEPTEMBER, 1925 Nos. 28, 29 and 30

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The Health Gnome Says -

Once a year to the doctor go
Whether you are sick or well,
He a sign post will become
And things of interest he will tell.

70 + is the goal to set
For your journey on this sphere;
70 + may be your luck,
If to this rule you will adhere.

The Listening Post

A MONTHLY JOURNAL OF PUBLIC HEALTH

Address communications to The Listening Post,
Pennsylvania Department of Health,
Harrisburg, Pennsylvania.

Vol. 3 Harrisburg, Pennsylvania, July, August & September, 1925 Nos. 28, 29 & 30

“Acceptance for mailing at special rate of postage provided for in section 1103, Act of October 3, 1917, authorized April 6, 1923.”

SIGN POSTS

Humanity has always needed sign posts. The desire to know one's destination is as innate and necessary to us all as are the fundamentals of life itself. We work for an object and demand manifest indications that progress is being made. These are the sign posts responsible for ambition and which result eventually in successful achievement.

Public health officials are striving for a well defined goal; and in their journey of endeavor there stand out certain beacon lights indicating that their activities are not in vain.

It is well enough to realize that large sums of money are being expended to improve the health of the Commonwealth, and it is equally gratifying to know that the official personnel with its hundreds of cooperating agencies are conscientiously endeavoring to do the work to which they have been called. But the big thing after all is not the amount of money expended nor the endeavor utilized, but the results actually attained.

The sign posts of the State Department of Health are to be found in its Bureau of Vital Statistics where carefully and scrupulously the progress of the Department's activities are posted in a telling and incontrovertible way.

The sign posts indicating the tremendous decline in the major communicable diseases, in the reduction of infant mortality, in the prolongation of the average life, and many other indications of a job well done, tell a story which should be eagerly read and sincerely appreciated by all of us.

The July, August and September Number of the Listening Post therefore carries a narrative in statistical form which will indicate that the State Department of Health has been successfully traveling the road which ends in the ideal of a long and healthy life for every citizen within the Commonwealth.

A REVIEW OF VITAL STATISTICS IN PENNSYLVANIA 1917-1923, Inc.

DR. WILMER R. BATT, Director
Bureau of Vital Statistics

The interruption of the publication since 1916 of the annual reports of the Department of Health has made it difficult for those interested to follow the trend of morbidity and mortality during the past seven years. This is the more unfortunate because this period embraces those disturbances incident to the war and the influenza epidemic of 1918.

Without giving in detail the usual statistical tables it is hoped that this somewhat brief review will supply the information on the more important items in vital statistics for the unpublished years.

The year 1920 also marked the Fourteenth National Census, and as all comparative rates for births, deaths and marriages are based on the population of the State as a whole as well as the principal subdivisions thereof, the enumeration of the Census of 1920 gives us a definite basis upon which to compute these rates. For the intercensal years the population must of necessity be estimated. The value of this enumeration is not confined to the total number of persons enumerated, but it is valuable for the information it contains in regard to the composition of the population in reference to age distribution, sex, color and nativity.

For the decade 1900 to 1910, which formed the basis of estimation for the period 1910 to 1920, the rate of our population's increase was 21.6%, while for the period 1910 to 1920 it was 13.8%. This means that the estimates used for the later years of the last decade were too high and that it has been necessary to slightly revise some of the rates as published between 1910 and 1920. The result of the 1920 enumeration indicates a mid-year population of 8,766,156 and that our gain in the last ten years (approximately 1,000,000) has been due almost entirely to the preponderance of births over deaths (amounting to 900,000), and that immigration which contributed so prominently to our growth previous to 1910 ceased to be a large factor some time after that date. This change in the character of our population we know was not distributed equally through each year of the ten-year period, and from observation we are led to believe that our estimates for the years 1910 to 1914 were fairly accurate. The immediate effects of the war which not only stopped immigration but which also fostered emigration to their native lands of many unnaturalized persons in the latter part of 1914 and the early part of 1915 was one of the unknown factors in our population estimates since that date. Our subsequent entrance into the war, which withdrew for a period many of our own people, was perhaps largely offset by inter-state migration due to the concentration within our borders of so many war activities. The influenza epidemic of 1918, which took an excess toll of 60,000 deaths within a few months, was a further disturbing influence in our population estimates—not only in so far as actual numbers were concerned but in the uneven manner in which these deaths were distributed in relation to age, sex and locality. The census date of 1920 found some of these conditions

readjusted, but the later years of the previous decade presented changing levels of population which can perhaps never be determined with an entire accuracy.

The following tabulation presents the population, total deaths and death rates per 1,000 of population for each individual year from 1917 to 1923 inclusive:

Population, Total Deaths for the entire State and Death Rates per 1,000 population

<i>Year</i>	<i>Population</i>	<i>Total Deaths</i>	<i>Death Rate per 1,000 population</i>
1917	8,444,469	128,163	15.2
1918	8,551,698	187,951	22.0
1919	8,658,927	115,786	13.4
1920	8,766,156	120,902	13.8
1921	8,873,385	109,919	12.3
1922	8,980,614	110,684	12.3
1923	9,087,843	120,622	13.3

It will be noted from this table that the death rate has shown a satisfactorily declining tendency. While some years have shown slight increases as compared with the preceding year, the trend has been, with the exception of the year 1918, consistently downward.

To treat the population of the State as a whole does not answer the natural inquiry which arises as to general death rates in urban population as contrasted with rural. In this connection it is necessary for us to make somewhat of an arbitrary definition as to what constitutes urban population. Under conditions prevailing in Pennsylvania every incorporated municipality, strictly speaking, becomes an urban community. We have nine hundred and seventy-two incorporated municipalities in Pennsylvania:

<i>Population</i>	<i>Number of municipalities</i>
100,000 and over	4
Between 50 and 100,000	9
Between 10 and 50,000	64
Between 5 and 10,000	93
Under 5,000	802

Of this number under 5,000, five hundred and ninety-eight are under 2,000. It must be quite obvious that all villages of one or two thousand population, although incorporated as municipalities, present few or none of the features which we associate with an urban community.

For this reason in the statistical study of mortality the United States Census Office has adopted the rule of classifying every municipality having more than 10,000 population as urban, and all municipalities having less than 10,000 population together with the unincorporated portions of the State (townships) as rural. This of course is an arbitrary but practical division, for the reason that there are many unincorporated villages in the townships of the State having considerably more population than those which have selected corporate methods of government.

Upon the basis of "urban" and "rural" as above outlined the population of the State is quite equally divided, as the mid-year population of 1920 was 4,468,678 for urban districts and for rural 4,305,669.

On the strict basis of incorporated as compared with unincorporated places the population was 6,050,074 urban and 2,724,273 rural. The former figures are of special interest when we discuss morbidity rather than mortality.

Death Rates for the entire State, Urban (all municipalities having more than 10,000 population) and Rural (all municipalities having less than 10,000 population and including townships):

1917 to 1923 inclusive.

	1917	1918	1919	1920	1921	1922	1923
All deaths	15.2	22.0	13.4	13.8	12.4	12.4	13.3
Urban	16.5	23.2	13.9	14.9	13.0	13.0	13.9
Rural	13.2	20.7	12.8	12.7	11.7	11.5	12.5

While these rates must be used with some caution in drawing the broad conclusion that life in the country is safer than in the city, we must not forget that exclusive of the hazards incident to our large cities, particularly in reference to deaths from some form of accident or violence, that quite a large percentage, amounting to one-fifth of all the deaths which occur in hospitals which are practically all urban, are deaths of persons not residing in municipalities but drawn from surrounding rural territory.

While general death rates give us a composite picture of conditions surrounding mortality in the State as a whole or in certain definite localities, inasmuch as the energies and resources of health departments have been directed at the control of certain definite causes of deaths, it is of extreme interest to consider certain of these diseases individually, in order to determine just what factors have influenced the decline in the general death rate.

The decline in Typhoid Fever as indicated in the following tabulation illustrates very forcibly the achievements to be attained through the application of intelligent effort to secure pure water, pure milk, protected food, proper disposal of sewage, the eradication of flies and the proper safeguards surrounding every case of the disease.

There is a wider significance associated with the control of Typhoid Fever than is represented by the figures in relation to the disease alone, as it has been determined through continued observation that for every case of Typhoid Fever prevented, six other cases of collateral illness have been avoided.

Deaths and Death Rates for Typhoid Fever: 1906 to 1923, inclusive.

<i>Year</i>	<i>Deaths</i>	<i>Rate per 100,000 population</i>
1906	3,917	54.8
1907	3,538	48.6
1908	2,450	32.4
1909	1,712	22.7
1910	1,892	24.6
1911	1,716	22.0
1912	1,310	16.6
1913	1,470	18.3
1914	1,071	13.2
1915	1,020	12.4
1916	1,157	13.9
1917	901	10.7
1918	928	10.8
1919	612	7.1
1920	503	5.7
1921	653	7.3
1922	424	4.7
1923	447	4.9

Pennsylvania's death rate from Tuberculosis in all forms in 1906 was 151 per 100,000 of population. There was a gradual decline from this point until 1912 during which year the rate was 122. From 1913 to 1918 the rate increased until it reached 151, exactly where it stood in 1906. The peak of 1918 was undoubtedly due to the added infection of Influenza.

Since 1918 there has been a most remarkable decline, and during the year 1923 the rate fell to 85 per 100,000 of population.

While it is true that during the past thirty years particular effort has been directed against Tuberculosis, the consistent decline in this disease has only become apparent in the latter years when the efforts directed against Tuberculosis became broad enough to include an improvement aimed at the entire social and economic welfare of our people as a whole. Today there is no successful effort against Tuberculosis which does not contain all the elements of a health crusade against all diseases. It is practically impossible to weigh and measure the exact value of any particular line of endeavor, but the constantly increasing effort directed to the rehabilitation of children suffering from under-nourishment without active evidence of Tuberculosis must inevitably restrict the number of cases of this disease in adult life.

Deaths and Death Rates for Tuberculosis: 1906 to 1923, inclusive.

<i>Year</i>	<i>Deaths</i>	<i>Rate per 100,000 population</i>
1906	10,780	150.9
1907	10,825	148.7
1908	10,211	137.8
1909	10,122	133.9
1910	10,285	133.7
1911	10,604	135.9
1912	9,872	124.8
1913	9,802	122.3
1914	10,212	125.7
1915	10,467	127.2
1916	11,088	133.0
1917	11,710	138.7
1918	12,944	151.4
1919	10,327	119.3
1920	9,213	105.0
1921	8,197	92.4
1922	8,018	89.3
1923	7,817	86.0

In September 1918 Influenza, which first made its appearance in the northern part of the Atlantic Seaboard, invaded Pennsylvania on its eastern border. From this locality it continued on its westward march and in a very short time was pandemic throughout the entire United States. It was an exceedingly virulent type of infection, with a high mortality rate. In a period of four months this disease associated with Pneumonia, which was the usual form of complication, caused directly 61,510 deaths. In addition to these, the non-fatal cases, whose exact numbers are unknown, assumed such immense proportions that whole communities were rendered more or less helpless, in spite of the most unusual efforts to control the infection and afford relief. While for years Influenza has appeared as a factor in deaths from all causes, with an average annual rate of 17.9 per 100,000 of population for seven years, for the year 1918 it was 452.0 per 100,000.

Taking the year 1915 as a typical average year, with a rate of 17.4, we find that the deaths from Influenza and Pneumonia during the first eight months of that year were 9,517. During the corresponding period of 1918 they were 13,307. During the last four months of 1915 deaths from the same causes were 4,381, and during the last four months of 1918 they were 61,510.

This epidemic, coming as it did at the very peak of our wartime activities, seemed to find particularly fertile soil upon which to thrive among those who under ordinary circumstances might have been expected to offer the highest type of resistance. This fact is well illustrated when we compare the distribution of deaths by age periods for 1918 with the same age distribution for 1915, from which it will be found that it was not the very young or the very old that suffered the greatest incidence of mortality, but those between the ages of twenty and forty. The following table will illustrate this fact:

Ratios found by dividing Deaths of 1918 from Influenza and Pneumonia by Deaths of 1915 from the same causes in Pennsylvania as compared with the States composing the Registration Area

<i>Age periods</i>	<i>Registration States</i>	<i>Pennsylvania</i>
All ages	4.1	5.4
Under 1 year	1.6	1.9
1 year	3.0	3.9
2 years	4.4	5.8
3 "	5.6	7.8
4 "	6.3	7.5
5 to 9 "	7.4	9.1
10 to 19 "	13.5	16.4
20 to 29 "	22.0	32.9
30 to 39 "	15.6	21.3
40 to 49 "	4.8	6.9
50 to 59 "	2.2	3.0
60 to 69 "	1.5	1.8
70 to 79 "	1.1	1.2
80 to 89 "	0.9	0.9
90 to 99 "	0.8	0.9
100 years and over	0.9	0.3

It will be noted from these comparisons that Pennsylvania suffered more acutely than other State areas.

An interesting fact in relation to the distribution of this disease is found in the statistics of those States in the Registration Area having a large portion of colored population. In Kentucky the ratio among the whites was 4.6, among the colored 2.9. In Maryland among the whites 4.9, colored 3.0. In Virginia among the whites 4.8, colored 3.4.

Death rates per 100,000 population
(Including Influenza and Pneumonia in all forms.)

1917	211.0
1918	875.0
1919	236.7
1920	251.6
1921	146.9
1922	167.5
1923	200.1

Infant Mortality (Rate per 1,000 Births) and Death Rates per 100,000 of population, 1906-1923, inc.

Year	Infant Mortality	Measles	Scarlet Fever	Diphtheria	Whooping Cough	Cancer
1906	167	20.5	8.1	34.1	21.7	58.9
1907	149	9.8	9.0	29.3	17.7	60.7
1908	137	16.4	16.4	25.2	17.5	60.9
1909	130	14.0	16.1	26.0	12.0	64.1
1910	140	16.1	14.2	29.0	14.5	66.3
1911	118	10.3	9.6	27.1	12.8	66.6
1912	118	10.7	7.0	25.8	10.2	68.6
1913	126	19.7	11.4	26.2	11.1	73.0
1914	114	6.7	10.6	23.7	11.6	73.8
1915	110	6.5	3.6	19.8	7.0	74.4
1916	114	18.2	2.8	19.8	12.4	78.3
1917	111	6.2	2.7	23.9	10.5	80.9
1918	129	9.7	2.0	20.9	17.8	78.3
1919	100	5.8	2.8	21.4	5.8	81.0
1920	97	13.1	5.7	19.8	13.6	83.4
1921	87	5.4	7.3	22.3	8.8	85.5
1922	85	8.5	4.0	16.7	6.1	86.7
1923	88	18.0	4.4	15.6	10.9	90.8

If Infant Mortality rates are to be accepted as an index of consistent and persistent effort in the line of hygiene and sanitation, the decline between 1906 and 1923 is most gratifying.

It is not too much to say that intelligent and sympathetic contact with mothers, both before and after their confinement, looking to their own physical well being as well as to that of their children, must have an influence which "carries on" through the full period of child life when it is peculiarly susceptible to those diseases of early years. No single factor has contributed quite so much to the lengthened average duration of human life as the reduction of Infant Mortality. More than one-third of all infant deaths occur during the first month of life, and this is the period in which the least progress has been made in the reduction of Infant Mortality as a whole.

A regional statistical survey based upon county lines has shown that the high spots in Infant Mortality are co-incident with a high proportion of foreign-born population, illiteracy and a high birth rate. While it may be well to argue that a high birth rate within itself should not be a contributing factor to a high Infant Mortality, yet we cannot escape the fact that large families with short intervals between births in the family, least able to bear the economic burden, do contribute to the uncertainty of infant life.

In considering deaths from Puerperal causes it gives a better picture to compute rates based upon the number of births rather than upon the total population.

The death rates from all Puerperal causes and the rates from Puerperal Septicemia per 1,000 live births for seven years in Pennsylvania are as follows:

	1917	1918	1919	1920	1921	1922	1923
All puerperal causes	6.5	10.5	6.8	7.8	6.8	6.2	6.5
Puerperal septicemia	2.8	2.8	2.6	2.7	2.9	2.4	2.8

Examination of the incidence of deaths from Puerperal causes by ages of mothers shows that the rate at ages under twenty is higher than

at ages twenty to twenty-nine, no doubt due largely to the preponderance of illegitimate births at the earlier ages and the lack of care incident to such cases.

This analysis also shows that child-bearing becomes more hazardous to women in the later years.

Death rates per 1,000 live births at certain age periods, for the five-year period 1917 to 1921 inclusive

	<i>Under 20 years</i>	<i>20-29 years</i>	<i>30-39 years</i>	<i>Over 40 years</i>
1917	6.9	5.2	8.3	12.3
1918	9.4	7.9	10.7	14.1
1919	8.0	5.9	8.9	13.7
1920	7.7	6.4	9.9	14.8
1921	6.9	5.3	8.5	13.7

The mortality incidence of Measles during the seven years embraced in this Review illustrates very well the tendency of this disease to periodic recurrences. It would appear that every three or four years there is a wave of this disease which seems to exhaust itself. It will be noted, however, that the rates which prevailed from 1908 to 1913 did not reach the low ebb as indicated in the three years following 1920.

Scarlet Fever has not since 1914 exhibited the same fluctuating tendency that has occurred in Measles. While the interval between the high and low rates of Whooping Cough has been limited to one or two years, the mortality menace to child life as indicated by these three diseases is, however, but a portion of their true significance. Unfortunately they are so frequently associated with complicating conditions which, even in event of apparent recovery, really leave some permanent impairment. The most frequent of these complications are impairments of hearing, vision and respiration.

The average Diphtheria mortality rates for the seven years under consideration, while apparently higher than justified, are considerably lower than the average rate for the preceding year. The extensive efforts being made at the present time to control the incidence of this disease by extensive immunization forecasts a much lessened rate for the immediate future.

The increase in Cancer rates which for the past eighteen years has been consistently maintained has given rise to considerable controversy as to the position of this disease.

From the standpoint of actual numbers and rates based upon the total population the increase is certainly real. When we consider a specific death rate for this disease based upon the number of persons living at the various age periods, the increase is not so striking. As a disease of late adult life it will be readily appreciated that a lengthening of the average duration of life must inevitably carry a larger proportion of people to Cancer ages. This may well be illustrated by observing the Cancer rates of some of the other States as compared with Pennsylvania.

In 1920 and 1921 the Cancer rates were adjusted for the various states on the basis of the Standard Million population of England and Wales according to age and sex. Inasmuch as the composition of the population of Pennsylvania quite closely approximates the Standard Million, the adjusted rates do not differ very materially from the crude rate.

Thus the crude rate for 1920 was 83.4 and the adjusted rate 82.1. For 1921 the crude rate was 85.4, the adjusted rate 84.1.

The same is true of the State of New Jersey, the crude rate for 1920 being 86.6 and the adjusted rate 86.0 and for 1921 the crude rate being 93.3 and the adjusted rate 92.7.

For New York State, however, the adjusted rate was considerably lower than the crude rate. For the year 1920 the crude rate was 101.0 and the adjusted rate 91.8. For 1921 the crude rate was 105.7 and the adjusted rate 96.0.

When we consider the southern states with their large proportion of colored population in which the death rates are high in the pre-Cancer periods, we find that in North Carolina the crude rate for 1920 was 39.5, the adjusted rate 49.4. In 1921 the crude rate was 42.9 and the adjusted rate 53.7. In the colored population the adjusted rate showed even a wider variation. The crude rate for 1920 was 32.1, the adjusted rate 44.5; and for 1921 the crude rate was 38.8, the adjusted rate 53.7.

The same condition prevails in South Carolina where almost 50% of the total population is colored. In this state the crude rate for 1920 was 32.9, the adjusted rate 45.5; and for 1921 the crude rate was 34.4, the adjusted rate 47.6. For the colored population the crude rate for 1920 was 25.3, the adjusted rate 38.4; and for 1921 the crude rate was 25.5, the adjusted rate 38.7.

In order to test the contention that the apparent increase in Cancer is to be attributed to improvement in diagnosis and certification, Doctor Stevenson, the Registrar-General of England, in 1917 made a comparative study of the mortality from Cancer of accessible sites.

There is little reason to believe that this group of cases would present any great variation in recognition as compared with fifteen or twenty years ago. His findings seemed to substantiate the fact that Cancer of accessible sites showed a substantial increase.

The same thing is found in the United States where the combined mortality rate for Cancer of the buccal cavity, of the breast and of the skin was 8.4 in 1900, 13.1 in 1910, and 14.5 in 1920.

Heart affections most frequently appear as the cause of death at ages over fifty, 77% of the total deaths from this cause being recorded after that age. In 1910,—13.9% of our total population was living at ages over fifty years. In 1920 this had increased to 15.3%, an increase of 10%. The death rate based upon the total population at all ages in 1910 was 144.3 and in 1920 it was 160.7, an increase of 11.3%. The death rate per 100,000 of population for persons over fifty years in 1910 was 744.0. In 1920 it was 811.3, an increase of 9%. Between 1910 and 1920 the population under fifty years increased 11.9%. The death rate per 100,000 of population in this age group was in 1910,—47.2 and in 1920,—44.1, a decrease of 6.5%. In 1920,—11.6% of all deaths were due to heart diseases.

Suicide, Deaths and Death Rates per 100,000 population, 1917 to 1923, inc.

	<i>Deaths</i>	<i>Rate</i>
1917	938	11.2
1918	966	11.4
1919	847	9.8
1920	794	9.0
1921	997	11.2
1922	1,044	11.6
1923	1,004	11.0

Homicide, Death and Death Rates per 100,000 population, 1917 to 1923, inc.

	<i>Deaths</i>	<i>Rate</i>
1917	566	6.7
1918	556	6.5
1919	516	6.0
1920	493	5.6
1921	564	6.3
1922	538	6.0
1923	634	7.0

Forty per cent of all Suicides and 73% of all Homicides are due to firearms.

Birth rates and the relation of Births to Deaths are as follows:

	<i>Excess of Births over Deaths</i>	<i>Birth rates per 100,000 Pop.</i>
1917	94,342	26.5
1918	32,219	25.7
1919	91,899	24.0
1920	99,560	25.1
1921	119,533	25.9
1922	103,664	23.8
1923	97,106	23.9

In 1921 there were 860,470 native married white women in Pennsylvania between the ages of 15 and 44 who gave birth to 151,093 children, or a ratio of one birth to 5.7 native married white women of child-bearing age. There were 305,258 foreign married women who gave birth to 65,082 children, a ratio of one birth to 4.7. There were 56,413 colored married women who gave birth to 6,323 children, a ratio of one birth to 8.9.

The relative size of the native and foreign families is illustrated by the fact that the average native white mother in Pennsylvania bears 3.1 children, and the number of living children to this mother is 2.8. The foreign mother bears 4.6 children of which 3.8 are living. Or in other words, the native white mother saves 89.6% of her offspring, while the foreign mother saves 85.1%. The mothers of Denmark, Norway and Sweden rank high in this respect, as 90% of the children born to these mothers are living, while the rate for Austria-Hungary and Poland is only 83.8%.

Plural births are interesting biological processes. The number and relation for the several years are as follows:

	<i>Number</i>	<i>Rate per 1,000 of all births</i>
1917	2,250	10.1
1918	2,419	11.0
1919	2,356	11.3
1920	2,510	11.4
1921	2,614	11.4
1922	2,384	11.1
1923	2,493	11.4

Of these plural births 93% were both living at birth. In 7% one child was stillborn. The proportion of males to females for the seven years 1917 to 1923 inclusive was as follows:

		<i>Male Live Births per 1,000 Female Live Births</i>
1917	.....	1,058
1918	.....	1,058
1919	.....	1,057
1920	.....	1,057
1921	.....	1,059
1922	.....	1,056
1923	.....	1,057
		<i>Rates of Illegitimates per 1,000 Total Births</i>
1917	.....	17.7
1918	.....	18.1
1919	.....	19.0
1920	.....	21.2
1921	.....	22.1
1922	.....	22.8

In 1922 the number of illegitimate births per 1,000 total births to native mothers was 16.6, to foreign mothers 5.4, and to Negro mothers 130.2.

<i>Totals of Communicable Diseases: 1917 to 1923, inclusive</i>							
	1917	1918	1919	1920	1921	1922	1923
Total	132,431	149,172	127,542	177,563	153,818	142,730	190,547
Actinomycosis .	1	1	1	.....	.....	1	1
Anterior poliomyelitis	473	302	107	138	239	90	175
Anthrax	26	11	15	18	14	23	23
Cerebrospinal meningitis ...	900	491	205	166	144	123	117
Chicken pox ...	20,265	9,354	15,147	16,944	22,085	19,947	19,868
Diphtheria	16,081	12,378	17,896	17,058	20,910	16,817	16,133
Epidemic dysentery	74	31	.....	6	.....	.....	.....
Erysipelas	1,757	888	896	973	1,019	750	930
Glanders .....	.....	.....	.....	.....	.....	1	.....
German measles	3,266	7,236	530	509	712	1,655	995
Leprosy .....	.....	.....	6	.....	1	.....	2
Malarial fever .	11	5	8	20	12	17	20
Measles	34,009	51,836	46,525	72,978	29,921	53,395	99,806
Mumps	6,472	14,192	5,435	9,779	21,072	7,270	6,238
Pellagra	6	2	1	3	6	4	4
Pneumonia (true)	7,876	11,894	5,994	7,875	5,482	5,605	6,428
Puerperal fever	30	27	22	19	70	49	72
Rabies	4	5	5	3	1	5	.....
Relapsing fever	.....	.....	.....	.....	.....	.....	.....
Scarlet fever ..	8,309	7,308	11,458	21,295	23,922	16,676	15,260
Smallpox	370	612	237	224	211	85	189
Tetanus	55	47	50	54	60	55	60
Trachoma	48	31	39	33	22	29	38
Trichiniasis ...	2	1	.....	.....	6	5	7
Tuberculosis ..	11,243	10,115	9,789	8,238	7,086	6,375	6,634
Typhoid fever .	5,127	4,559	3,827	2,862	4,748	2,802	2,382
Typhus fever ..	.....	1	.....	1	.....	.....	.....
Whooping cough	16,026	17,845	9,349	18,347	16,075	10,951	15,165

The Morbidity and Mortality incidence of those diseases associated with early ages is very significant. In Diphtheria 31% of all cases occur under 5 years of age, and 58% of Mortality. In Scarlet Fever

20% of all cases occur under 5, and 50% of Mortality. In Measles 32% occur under 5, and 85% of Mortality; and in Whooping Cough 55% occur under 5, and 95% of Mortality.

Total Deaths and Deaths from Certain Causes: 1917 to 1923, inclusive.

<i>Pennsylvania</i>	<i>1917</i>	<i>1918</i>	<i>1919</i>	<i>1920</i>	<i>1921</i>	<i>1922</i>	<i>1923</i>
All causes	128,163	187,951	115,786	120,902	109,919	110,684	120,622
Typhoid and paratyphoid fever	901	928	612	503	653	424	447
Malaria	17	18	10	14	5	10	10
Smallpox . . . . .	.....	2	1	1	1	6	.....
Measles	523	831	501	1,153	477	761	1,632
Scarlet fever ..	225	174	243	497	648	364	400
Whooping cough	891	1,521	502	1,195	784	607	991
Diphtheria	2,019	1,784	1,852	1,733	1,983	1,504	1,417
Influenza	1,506	39,301	6,878	6,114	1,529	2,957	4,064
Erysipelas	313	229	197	244	262	235	292
Tuberculosis of the respiratory system	10,125	11,401	8,971	8,028	6,874	6,738	6,703
Tuberculosis of the meninges, etc.	753	690	591	506	483	477	422
Other forms of tuberculosis .	831	853	765	679	840	803	692
Cancer and other malignant tumors	6,832	6,697	7,007	7,315	7,588	7,782	8,253
Rheumatism ..	585	454	430	479	553	485	442
Diabetes mel- litus	1,425	1,322	1,253	1,430	1,539	1,614	1,712
Cerebral hemor- rhage	7,385	7,425	7,186	7,527	7,726	7,684	8,649
Diseases of the heart	13,158	13,851	11,500	12,406	12,604	15,271	17,110
Bronchitis	1,623	1,745	1,380	1,293	863	880	898
Pneumonia (all forms)	16,316	35,526	13,616	15,946	11,523	12,105	14,273
Diarrhoea and enteritis (un- der 2 years) .	8,211	8,418	5,774	5,526	5,502	4,420	4,329
Appendicitis and typhlitis	850	834	811	955	1,104	1,105	1,161
Hernia, intesti- nal obstruction	1,012	1,025	885	979	945	1,008	970
Cirrhosis of the liver	1,078	989	774	705	733	753	859
Nephritis	10,057	9,087	8,469	8,669	8,522	8,743	9,419
Puerperal septi- cemia	614	619	536	603	668	509	610
Other puerperal causes	829	1,685	880	1,107	900	825	822
Congenital mal- formations and diseases of early infancy	7,531	8,222	6,796	7,017	8,704	8,040	8,069
Suicide	938	966	847	794	997	1,044	1,004
Homicide	566	556	516	493	564	538	634
Accidental and unspecified ex- ternal causes	9,498	9,370	7,693	7,600	6,965	7,124	8,273
Unknown or ill- defined	601	726	519	534	425	457	444
All other causes	20,950	20,702	17,791	18,857	16,955	15,411	15,852

The title Chest Clinic has been adopted for what was formerly designated as Tuberculosis Dispensary. It is believed that this designation better expresses the relationship which this feature of the work of the State Department of Health bears at present to other functions, such as Child Welfare, Pre-natal service and Venereal Control, and which are grouped into a State Clinic plan, operated from the same headquarters and frequently with the same personnel.

The best evidence that the opportunities afforded for thorough examination are extensively appreciated is found in the fact that 16,548 persons availed themselves of Chest Clinic service, of which number 4,487 (or 27.1%) were found to be tuberculous.

A reference to the operations of the individual Clinic shows rather a wide variation in the results of examinations. Wilkes-Barre, with a total of 883 examinations, found 232 (or 26.2%) to be tuberculous; while on the other hand, Pittsburgh, with a total of 536 examinations, found 332 (or 61.9%) tuberculosis.

Another feature as perhaps illustrating the activities of the Clinic are to be found in the Clinic visits per person, which for the State as a whole averaged 3.3. A rather notable example of this is to be found in the case of Shenandoah, with a total Clinic attendance of 78 persons and an average of 13.9 visits per person.

GENERAL TABLE OF CHEST CLINIC OPERATIONS—1924.

LOCATION	Total Clinic Visits.	Tuberculosis Diagnosed.	Undiagnosed Applicants.	Total Tuberculosis Diagnosed and Undiagnosed Applicants.	Clinic Visits per Person.	Transferred to Sanatoria.	Per cent. Tuberculosis to Total Examinations.
Abington	54,588	4,487	12,061	16,548	3.3	3,110	27.1
Allentown	303	25	15	40	7.5	17	62.2
Allentown (Sacred Heart Hospital).....	775	47	52	99	7.8	15	47.5
Altoona	1,125	27	74	101	11.1	11	26.7
Ardmore	387	56	129	185	2.1	34	30.2
Beaver Falls	668	50	107	157	4.2	33	31.8
Bedford	219	6	153	159	1.3	1	3.7
Bellefonte	188	15	35	50	3.7	6	30.0
Bernice-Mildred	121	8	16	24	5.0	5	33.3
Bethlehem	6	.....	3	3	2.0	1	0.0
Braddock	1,810	73	331	404	4.5	68	18.1
Bradford	372	48	82	130	2.8	25	36.9
Bristol	150	35	28	63	2.4	8	55.5
Butler	234	18	81	99	2.3	8	18.1
Canton	897	61	304	365	2.4	13	16.7
Carbondale	50	.....	11	11	4.5	.....	0.0
Carlisle	1,075	55	272	327	3.2	36	16.8
Chambersburg	122	11	33	44	2.8	14	25.0
Chester	158	17	35	52	3.0	16	32.7
Clarion	1,203	111	514	625	1.9	48	17.7
Clearfield	154	5	35	40	3.8	4	12.5
Coatesville	715	38	177	215	3.3	12	17.6
Connellsville	653	77	75	152	4.3	33	50.6
Danville	269	27	67	94	2.8	8	28.7
Dubois	1,231	22	458	480	2.5	15	4.5
Easton	903	87	136	223	4.0	22	39.0
Ellwood City	242	29	38	67	3.6	18	43.2
Emporium	457	11	64	75	6.0	6	14.6
Erie	531	8	172	180	2.9	3	4.4
Franklin	1,231	263	419	682	1.8	84	38.5
Gettysburg	243	9	68	77	3.0	4	11.6
Greensburg	80	14	7	21	3.8	5	66.6
Harrisburg	526	85	114	199	2.6	36	42.7
Hazleton	1,427	217	301	518	2.7	93	41.8
	989	41	222	263	4.5	19	15.5

GENERAL TABLE OF CHEST CLINIC OPERATIONS—1924 (continued).

LOCATION	Total Clinic Visits.	Tuberculosis Diagnosed.	Undiagnosed Applicants.	Total Tuberculosis Diagnosed and Undiagnosed Applicants.	Clinic Visits per Person.	Transferred to Sanatoria.	Per cent. Tuberculosis to Total Examinations.
Homestead,.....	890	80	82	162	5.5	27	49.3
Honesdale,.....	20	6	9	15	1.3	2	40.0
Huntingdon,.....	229	24	58	82	2.8	9	29.2
Indiana,.....	381	54	130	184	2.0	41	29.3
Johnstown,.....	1,046	141	343	484	2.1	125	29.1
Kane,.....	170	14	66	80	2.1	5	17.5
Kittanning,.....	214	21	37	58	3.7	14	36.2
Lancaster,.....	742	77	157	234	3.1	19	32.9
Lansford,.....	452	50	37	87	5.2	29	57.4
Lebanon,.....	985	73	48	121	8.1	26	60.3
Lewistown,.....	410	33	105	138	2.9	26	23.9
Lock Haven,.....	515	13	139	152	3.3	5	8.5
McKeesport,.....	1,144	160	104	264	4.3	34	60.6
Meadville,.....	321	21	83	104	3.0	6	20.1
Mechanicsburg,.....	22	4	7	11	2.0	....	36.3
Mifflintown,.....	91	1	28	29	3.1	2	3.4
Monessen,.....	382	35	98	133	2.9	21	26.3
Monongahela,.....	379	40	92	132	2.8	34	30.3
Mt. Carmel,.....	731	24	80	104	7.0	16	23.0
Mt. Pleasant,.....	124	18	40	58	2.1	5	31.0
New Bloomfield,.....	114	5	34	39	2.9	....	12.8
New Castle,.....	642	52	94	146	4.4	27	35.6
New Kensington,.....	326	37	134	171	1.8	18	21.6
Newport,.....	10	....	1	1	10.0	....	0.0
Norristown,.....	641	74	254	328	1.9	31	22.5
Oil City,.....	604	17	77	94	5.1	3	18.0
Philipsburg,.....	562	42	190	232	2.4	14	18.0
Pittsburgh,.....	579	332	204	536	1.0	124	61.9
East Pittsburgh,.....	1,814	88	785	873	2.0	32	10.0
Pittston,.....	413	33	165	198	2.0	29	16.6
Portsville,.....	390	65	92	157	2.4	32	41.4
Punxsutawney,.....	496	28	63	91	5.4	16	30.7
Quakertown,.....	23	5	13	18	1.2	2	27.7
Reading,.....	801	97	201	298	2.6	54	32.5
Renovo,.....	399	5	84	89	4.4	4	5.6
Ridgway,.....	77	7	43	50	1.5	....	14.0
Rochester,.....	408	38	192	230	1.7	5	16.5
Saxton,.....	21	1	....	1	21.0	1	100.0
Sayre,.....	77	12	34	46	1.6	6	26.0
Scranton,.....	4,523	228	695	923	1.6	59	24.7
Shamokin,.....	1,106	17	312	329	3.3	13	5.1
Sharon,.....	560	73	121	194	2.8	33	37.6
Shenandoah,.....	1,089	27	51	78	13.9	19	34.6
Somerset,.....	70	6	28	34	2.0	4	17.6
Spangler,.....	191	24	52	76	2.5	11	31.5
Stroudsburg,.....	187	20	62	82	2.2	6	24.3
Sunbury,.....	524	39	46	85	6.1	22	45.8
Susquehanna,.....	215	....	84	84	2.5	2	0.0
Titusville,.....	336	18	36	54	6.2	8	33.3
Tunkhannock,.....	760	14	82	96	7.9	1	14.5
Tyrone,.....	117	1	13	14	8.3	5	7.1
Uniontown,.....	567	69	66	135	4.2	30	51.1
Warren,.....	372	29	25	54	6.9	17	53.7
Washington,.....	425	61	89	150	2.8	38	40.6
Waynesboro,.....	344	30	22	52	6.6	16	57.6
Waynesburg,.....	131	26	28	54	2.4	7	48.1
Wellsboro,.....	137	16	22	38	3.6	3	42.1
West Chester,.....	871	32	208	240	3.6	12	13.3
Wilkes-Barre,.....	3,260	232	651	883	3.6	106	26.2
Williamsport,.....	736	48	46	94	7.8	16	51.0
Woodlawn,.....	247	15	127	142	1.7	1	10.5
York,.....	661	39	164	203	3.2	38	19.2

TRANSFERS TO SANATORIA FROM ADMISSION CENTERS.

War Veterans' Bureau	
Philadelphia,.....	127
Eagleville Sanatorium,..	23
Mt. Sinai Hospital,....	7
Phipps Institute,.....	51
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Hospital,.....	89
Women's Medical Col-	
lege Hospital,.....	47
Northeastern Hospital,..	38
Episcopal Hospital,....	140
Memorial Hospital,....	22
Germantown Hospital,..	37
Jewish Hospital,.....	23
Jefferson Hospital,....	84
St. Agnes Hospital,....	44
Medico-Chi Hospital,...	232
Douglas Memorial	
Hospital,.....	10
Rush Hospital,.....	101

MATERNAL MORTALITY IN PENNSYLVANIA

By

DR. MARY RIGGS NOBLE, Chief

Preschool Section

The maternal mortality rate in Pennsylvania in 1906 was 6.1, meaning that in each 1,000 confinements 6.1 mothers perished. In 1923 the maternal mortality rate was precisely the same, 6.1.

It has varied in the intervening years, rising to 10.8 in 1918 (the Influenza epidemic year). It has once been 3/10 of a point lower, i. e., 5.8.

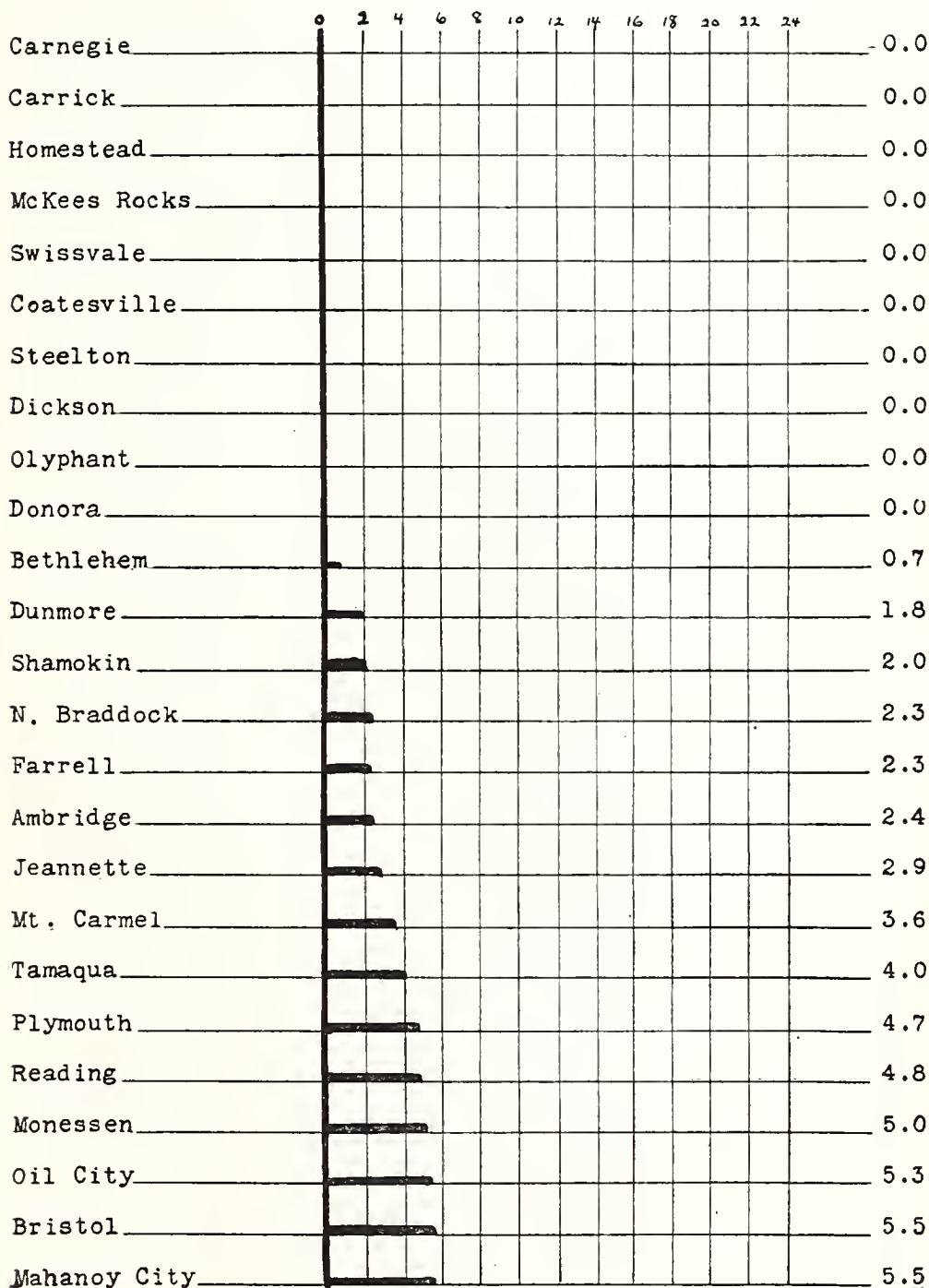
We lost 1,251 mothers in 1922. In 1923 we lost 1,373.

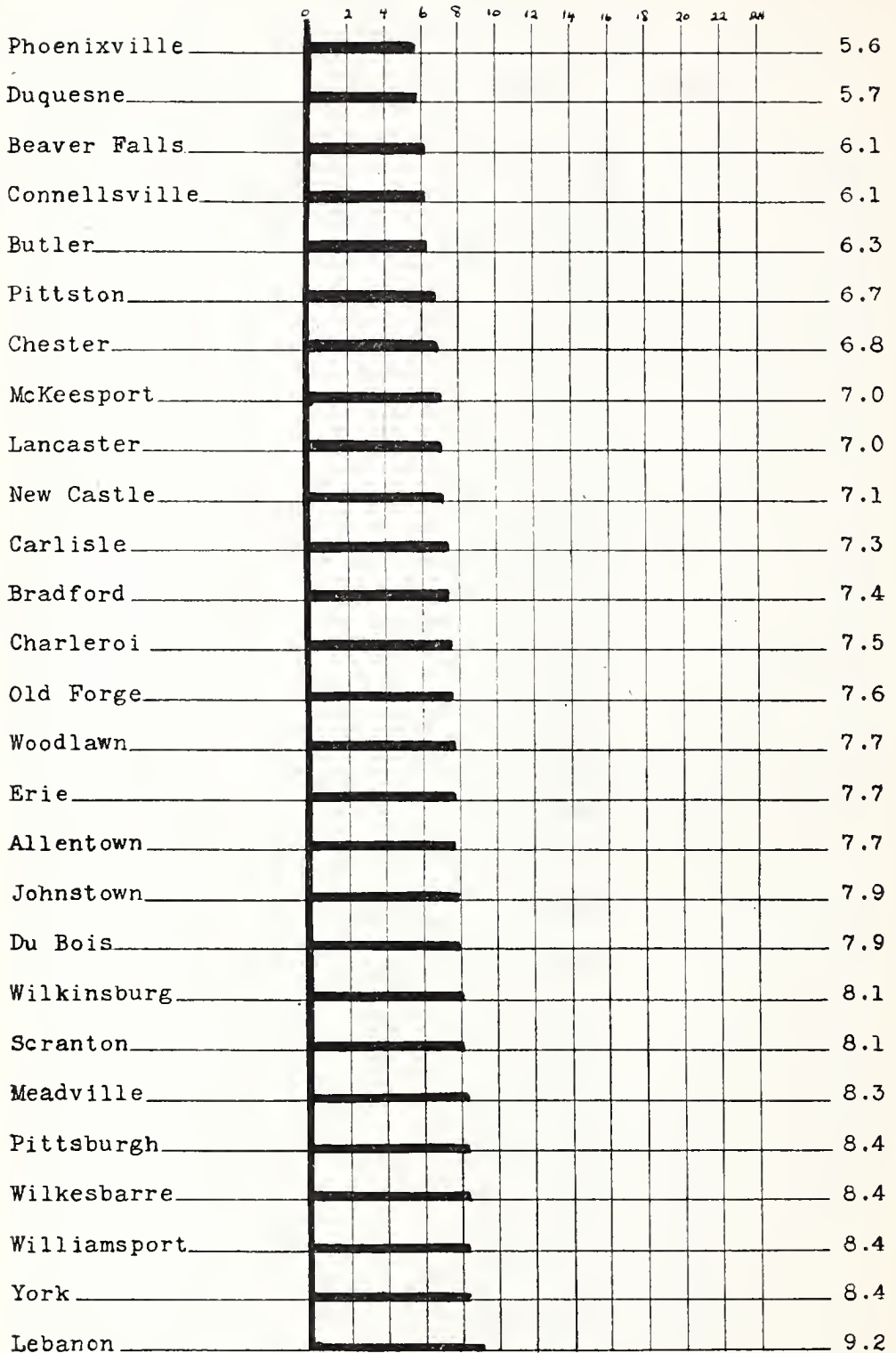
The two causes claiming the largest number of deaths were septicemia, 441, and the toxemias, 366.

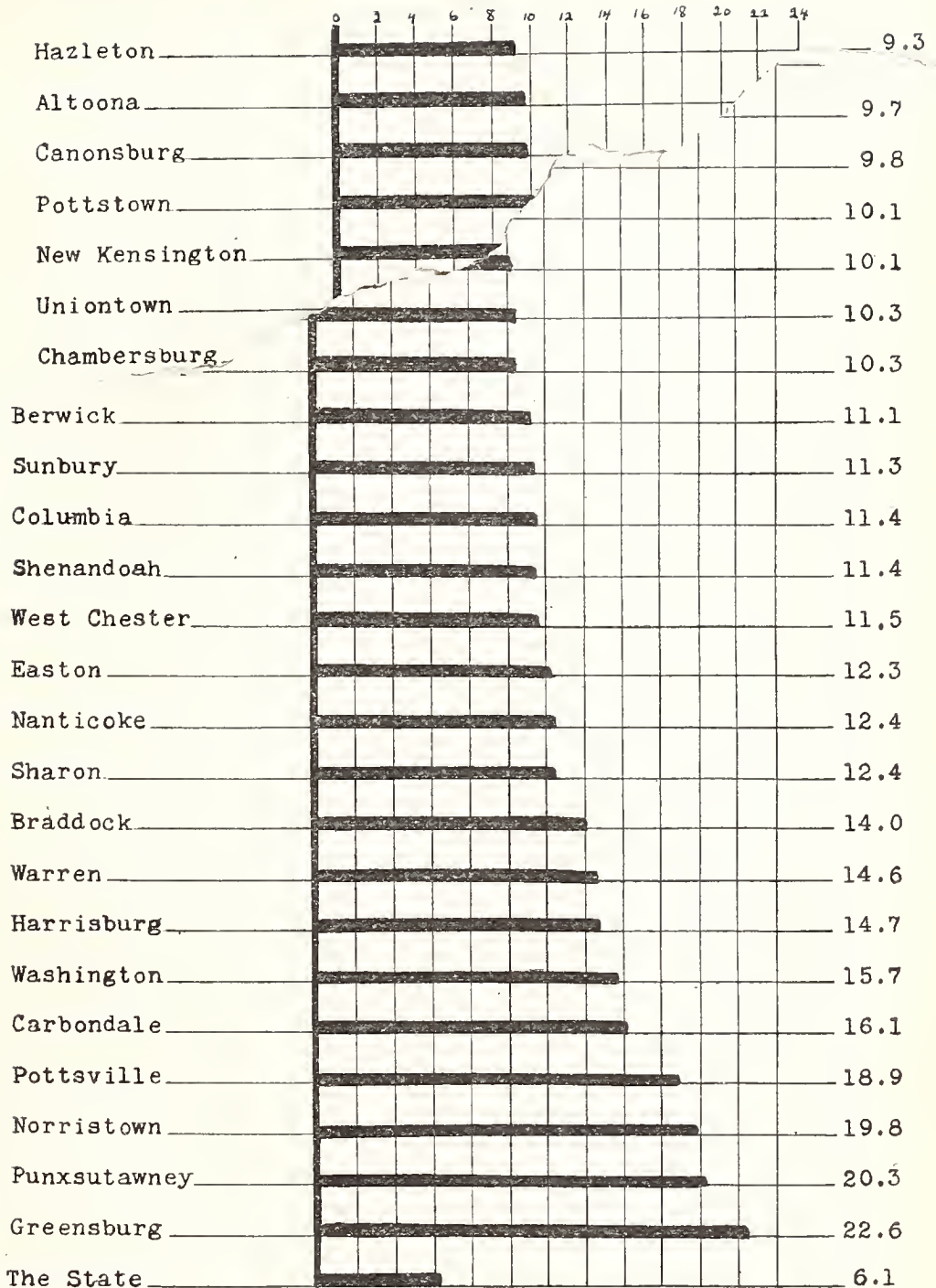
The accompanying map shows the maternal mortality rate by Counties and is self-explanatory. It will be noticed that the Counties where the rate is highest are not the Counties where the largest proportion of foreign population is centered, i. e., the coal regions. The diagram gives the maternal death rate of cities where the rate was higher than 10.

Maternal Mortality Rates, 1923.
Per 1000 Births.

Pennsylvania Cities of More Than 10,000 Population.







Total no. of births - 225,673

No. of Maternal Deaths - 1,373

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